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ABSTRACT

This survey was conducted in order to determine the training requirements of the clothing industry in South Australia. The results and findings are intended to be used as a means for upgrading and revising the Clothing Production Certificate Course and for providing suitable training programs for other key occupations within the industry. Survey data were gathered via interviews with senior managers from fifty clothing industry firms, with a questionnaire used to structure them; and from the Australian Bureau of Statistics industry and occupation records. Computer analysis of these data resulted in a profile of occupations being developed for all major occupation groups in the clothing industry. The twenty findings from the survey data suggest that the training needs of the clothing production industry in South Australia are diverse because of such factors as firm size, type of merchandise, range of machinery, methods of production, and quality of product. Areas of specific training requirements are stated and four certificate courses are recommended. Five wider curriculum issues are discussed: task analysis of selected occupations; extent of the client market; upgrading of skills within the industry; relevance of the Garment Design and Construction Certificate; and development of learning objectives. Ten recommendations are made concerning skill analysis, course structure, resource allocation, certification, credit, and scheduling. (KC)

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THE TRAINING REQUIREMENTS OF THE CLOTHING INDUSTRY

A SURVEY OF SELECTED OCCUPATIONS

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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TAFE authorities are responsible for ensuring that course content is relevant to occupational excellence. For this reason, they should keep in continuous touch with occupational trends.

T.A.F.E. in Australia: Report on Needs in Technical and Further Education Meyer Kangan, Chairman of the Australian Committee on Technical and Further Education. Canberra: Australian Government Printing Service, 1974, p.xxv.

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The Head of the Typing Pool, Lee Kunda, and the typists, Julie Chadbourne and Nancy Kibble, who typeset the report.

My husband Ken and children Suzanne, David and Carolyn for their support and patience.

Kath Berry,
Project Officer
June, 1979.

SUMMARY AND RECOMMENDATIONS

This survey was conducted in order to determine the training requirements of the Clothing Industry in South Australia. The results and findings are intended to be used as a means of up-grading and revising the existing Clothing Production Certificate Course and of providing suitable training programmes for other key occupations within the industry. It is expected that industry and college personnel would be interested in the outcomes of this report.

The survey was conducted by means of interviews with senior managers from fifty firms. A questionnaire was used to structure the collection of the information. The data were subsequently processed by computer using a standard statistical package. Data extracted from the Australian Bureau of Statistics industry and occupation records were also analysed. This analysis resulted in a profile of occupations being developed for all major occupation groups in the clothing industry.

Close to 2 300 people are employed in 71 clothing manufacturing firms. Eighty three per cent of employees are females. There are nearly 1 200 machinists, sewers and embroiderers, 190 dressmakers and 107 cutters. Other industries also employ machinists and cutters; in fact the clothing industry employs only 37% of all workers in these two occupation groups.

Twenty findings arose from the survey data. In general, these results suggest that the training needs of the Clothing Production Industry in South Australia are diverse, with differing needs for different types of firms. The reason for the diversity is attributed to factors such as: firm size; type of merchandise; range of machinery; methods of production, and quality of product.

Areas of specific training requirements are stated and four certificate courses are recommended.

Five wider curriculum issues are discussed:

- task analysis of selected occupations
- extent of the client market
- upgrading of skills within the industry
- relevance of the Garment Design and Construction Certificate
- development of learning objectives

Five recommendations arise from the report findings and five were framed by the working party:

RECOMMENDATIONS

The following recommendations arise from this study:

It is recommended that:

(1) an analysis of skill areas should be undertaken for those occupations that are typical of the output of the clothing industry and which were not surveyed in this study.

(2) *performance analyses should be undertaken of selected occupations within the clothing industry and of the same occupations in other industries.*

(3) *the Garment Design and Construction Certificate Course should for the time being be considered independently of the Clothing Industry courses.*

(4) *the present Clothing Industry Courses should be allowed to stabilize over an extended period of three to five years and no major revisions should occur during that time.*

(5) *resources allocations should be planned on the basis of the report findings along with other information subsequently gathered.*

The following recommendations were formulated by the working party. It is recommended that:

(1) *the existing Clothing Production Certificate be replaced with four specific certificate courses to meet the training needs of the clothing industry. These should be:*

- *a Certificate Course for Machinists*
- *a Certificate Course for Pattern Making*
- *a Certificate Course for Cutting*
- *a Certificate Course in Management.*

(2) *the programme within each certificate be sufficiently flexible to cater for the specific needs of different sectors of the industry.*

(3) *credit be given to students who have relevant work experience but who are unable to meet the required educational pre-requisites.*

(4) *priority be given to the Machinist and the Pattern Making Phase I Courses.*

(5) *the above two courses be offered on a full time and a part-time basis.*

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CHAPTER 1

CHAPTER 1

HISTORICAL PERSPECTIVE

The Clothing Production Certificate Course commenced in 1973 as a pilot programme. An investigation into the feasibility of such a course began as the result of inquiries at the Elizabeth Community College in relation to training for the Clothing Industry. The course was subsequently established at this College after considerable investigation in South Australia and interstate.

Although the first initiatives for such a course came from firms in the northern region of Greater Metropolitan Adelaide, the main reason for the course being established at Elizabeth Community College was that it was the only college which at that time had sufficient ground space to accommodate the portable unit required to house the equipment. There were a number of clothing industry firms in the area with employees requiring training and therefore it seemed a feasible proposition to locate the teaching unit at Elizabeth Community College, even if all students were not to come from near by.

Unfortunately the state of the economy in 1974-75 had an unsettling effect on the provision of educational training for the Clothing Industry in South Australia. Information from the Australian Bureau of Statistics reflects this trend. Between 1972-73 and 1976-77, the number of clothing and footwear production firms decreased from 103 to 78, while the number of employees decreased from 4 295 to 3 981. Two large firms in the northern metropolitan area closed down. This reduced student intakes at Elizabeth Community College. Furthermore, it was considered that staff of the remaining firms in that area required specialized in-plant training rather than course work being offered at the College. During this period students were enrolling in increasing numbers from areas south of Elizabeth. Thus the situation arose that most students attending the Clothing Production Certificate Course travelled relatively large distances from areas outside of the Elizabeth region.

At about that time, firms from the southern districts expressed concern at the location of the Clothing Production Course. They claimed that a more central location was essential on the grounds that this would reduce travelling time for the majority of employees.

A small survey was conducted during 1977 to ascertain the location of clothing firms in South Australia. The results indicated that many of the clothing factories were located within a radius of six kilometres of the city or in the southern metropolitan districts. Further investigation showed that many of these industries felt that their needs were not being catered for, and attempts were made to set up another Clothing Production Course at one of the metropolitan colleges west of the city of Adelaide. However, the cost of duplication of equipment was considered to be prohibitive and so a second centre was considered inappropriate. Consequently, the Principal of Elizabeth Community College recommended to the Director-General of Further Education that the Clothing Production Certificate Course be moved to a more central location.

Negotiations commenced in October 1977, regarding the transfer of the Clothing Production Certificate Course to another college. These

discussions involved Croydon Park and Marleston Colleges of Further Education, as both are located within 6 kilometres of the city. It was eventually decided that the most appropriate location would be Marleston College of Further Education. During October 1978, the Director-General approved the transfer of the Clothing Production Certificates to the School of Wool and Textiles at this College. The transfer was programmed to take place early in December so that classes could commence in February 1979.

During these developments, it quickly became apparent that the course itself was in need of revision. For instance, the general requirements of the Clothing Industry were well known, but little information existed on specific details of the kind that would be useful for implementing a valid educational programme. It was decided to set up a working party to investigate some of these problems.

CHAPTER 2

CHAPTER 2

THE FORMATION OF THE CLOTHING PRODUCTION WORKING PARTY

At the beginning of 1978 Mrs. K. Berry was seconded to the Curriculum Development Branch of the Department of Further Education. She was given the following brief:

1. review and make recommendations regarding the educational requirements of the Clothing Industry.

2. revise the existing Clothing Production Certificate Course if required.

3. develop a Certificate Course in Advanced Clothing Production if required.

4. investigate the possible linkage with the Certificate Course in Garment Design and Construction.

In an endeavour to meet the above aims a Clothing Production Working Party was established. The members of the Working Party were selected according to their depth and breadth of knowledge of the industry and of education. The members and the organizations they represent were as follows:

Mr. D. Ali	Education Officer, Curriculum Development Branch
Mrs. K. Berry	Lecturer, Department of Further Education (Executive Officer)
Mr. K. Collins	Clothing Trades Union
* Mr. J. Fullgrabe	Levi Strauss
Mrs. L. Goldberger	Goldex
Mr. T. Gwynn Jones	Gwynn Jones Pty. Ltd.
* Mr. G. Haylock	Oxford Clothing Pty. Ltd.
Mr. J. Hodgson (until 24/8/78)	Principal Education Officer, Curriculum Development Branch
Mr. D. Holdsworth	Training Development Officer, (then) Department of Labour and Industry
Mr. K. Jarvis	K.J. Jarvis Pty. Ltd.
Mr. R. Mathers (after 24/8/78)	Superintendent, Curriculum Development Branch, Dept. of Further Education
Mr. T. Rose	Glenside Clothing
Mr. R. Schilling	Research Branch, Department of Further Education
Mr. B. Taylor (Chairman)	Head, School of Wool & Textiles
Mr. R. Taylor	Taylor Clothing Co.
* Mrs. M. Vadasz	Vogue Overseas Fashions
Mr. P. Kristensen	Walter Fashions

* Although unable to attend, these people made significant contributions in the form of advice on training questions.

The terms of reference for the Working Party were as follows:

(1) determine the educational requirements of the Clothing Industry.

(2) review the existing Clothing Production Certificate Course.

(3) revise the course if required.

(4) be responsible for writing any additional courses required.

(5) investigate the possible linkage with the Garment Design and Construction Course.

(6) submit recommendations for Departmental consideration.

Recommendations would be formulated and these would then be endorsed by the Working Party before being forwarded to the Director-General for approval.

The following plan of action was proposed:

(1) Regular meetings would be conducted in order to maintain continuous contact with the project team.

(2) The Working Party would visit lecturers and students involved in the Clothing Production Course to examine the programme and facilities.

(3) Submissions would be sought from appropriate organizations and individuals. Representatives would be co-opted from relevant organizations to provide specialist input.

From the first working party meeting it was realized that the needs of the clothing industry in South Australia were diverse. These needs varied considerably between large, medium and small manufacturers. Factors such as type of merchandise, machinery used, methods of production, quality and price range of garments added to the complexity of the situation. It was felt that the existing course was not meeting all these requirements. It was decided, therefore, to investigate certain of the occupations within the clothing industry and then use the data collected to upgrade the existing educational programme. In doing so, ways and means of providing flexible training programmes would be identified. These would be designed to have the optimum value and appeal to the industry.

The working party agreed that structured interviews should be conducted with responsible and knowledgeable people at a supervisory and/or management level in a full and representative cross-section of manufacturing companies. Such a survey would produce sufficient detailed data for a comprehensive analysis of all relevant occupations in the industry. The person to person contact would ensure that the accuracy and validity of the feedback would be at a high enough level to guarantee a sound base for devising quality educational programmes. It was expected that industry and college personnel would be particularly interested in the survey findings.

CHAPTER 3

CLOTHING INDUSTRY STATISTICS

A major source of statistical information about the clothing industry comes from the 1976 Population Census. The Australian Bureau of Statistics (ABS) uses two main classifications for coding, namely the Industry Classification (Australian Bureau of Statistics, 1976a) and the Occupation Classification (Australian Bureau of Statistics, 1976b).

It was considered appropriate to extract this information from ABS records and then analyse it. This would give a detailed picture of the industry and the major occupation groups within it.

NUMBER OF CLOTHING PRODUCTION FIRMS

There are 78 Clothing and Footwear firms in the Adelaide Statistical Division (this area being bounded by Gawler in the north and Noarlunga in the south) and four outside this region. (Australian Bureau of Statistics (Adelaide), 1976-77). Seven of these firms manufacture items of footwear and all of these are in the Adelaide Statistical Division (Newlyn, 1979). Thus there are 67 clothing firms (94% of all clothing firms) located within the Adelaide Statistical Division and four outside this region.

DEFINITIONS OF INDUSTRY AND OCCUPATION

The distinction between industry and occupation is not always understood. In fact the terms are often used synonymously. The Australian Bureau of Statistics (1976a, p.3) defines the two terms in the following way:

"The occupation of a person is the kind of work that he or she usually performs. The nature of the factory, business or service in which a person works has usually no direct bearing upon the classification of his or her occupation. For example, a carpenter employed by a steel-making establishment would have the occupation of 'carpenter' and industry 'steel manufacturer'.

"Industry is defined as any single branch of productive activity carried out in an establishment. Persons are classified industrially as belonging to the particular branch in question irrespective of their personal occupations within the industry. For example, an electrician working at an oil refinery would have the occupation of 'electrician' but his industry would be that of 'oil refining'."

In the case of the clothing industry, firms may well employ people from different occupation groups. Even so the industry classification of these employees is still 'clothing production' because the production of clothing is the characteristic productive activity carried out within this particular industry.

INDUSTRY CLASSIFICATION FOR CLOTHING PRODUCTION

Clothing production is described as an industry sub-group within the manufacturing division of the industry classification (Australian Bureau of Statistics, 1976a).

Within the clothing production group are ten defined classes:

- clothing undefined
- womens and girls blouses and frocks
- womens and girls outwear not elsewhere classified (n.e.c.)
- mens and boys trousers and shorts; work clothing
- mens and boys suits and coats; water-proofing clothing
- underwear, nightwear, mens and boys shirts and infants and babies clothing n.e.c.
- foundation garments
- headwear
- clothing n.e.c. and clothing trade services.

Each of these industry classes is described in terms of types of garments produced. These categories can be used to identify types of firms and as such define the clothing industry. More detailed statements of these classes are given in Appendix A.

The total of all employees in the clothing production subdivision as at 1976 was 2 292 with 402 of these being males and 1 890 being females (Australian Bureau of Statistics, 1979). Numbers of employees for each industry class are not available because of the fact that a firm engaged in one class of production, say foundation garments, may also be involved in the production of another type of garment, say, underwear and nightwear.

MAJOR OCCUPATION GROUPS IN THE CLOTHING INDUSTRY

Eight major occupation groups are represented within the clothing industry. These are listed in table 3.1 along with numbers of males and females employed in each category.

Close to 2 300 persons are employed in the industry. Eighty three per cent of these are females.

Eighty two per cent of all clothing industry employees are tradespeople, production-process workers and labourers not elsewhere classified. This is the dominant major occupation area and can be regarded as that major occupation group which characterises the industry.

The next three largest major occupation groups collectively account for 16% of the workforce.

- clerical workers (6%)
- administrative, executive and managerial workers (5%)
- service, sport and recreation workers (5%)

TABLE 3.1 Number of male and female clothing industry employees for each major occupation group for the year 1976.

Major Occupation Groups	Clothing Industry Employees		
	Males	Females	Total Persons
Professional, technical and related	12	10	22
Administrative, executive and managerial workers	90	34	124
Clerical workers	12	131	143
Sales workers	28	8	36
Workers in transport and communication	2	0	2
Tradespeople, production-process workers and labourers n.e.c.	224	1 645	1 869
Service, sport and recreation workers	34	58	92
Occupation inadequately described or not stated	0	4	4
Totals	402	1 890	2 292

Females clearly outnumber males in all except three categories: namely 'professional, technical and related', 'administrative, executive and managerial workers' and 'sales workers'. These categories are within the top four levels of the eight level hierarchy of major occupation groups.

OCCUPATIONS DIRECTLY RELATED TO CLOTHING PRODUCTION

The following classes of occupations are regarded as being directly related to clothing production output.

- tailors
- dressmakers
- other garment makers, including furriers
- milliners
- upholsterers and related workers
- cutters of textile products, leather garments and gloves
- machinists, sewers, embroiderers of textile products, leather garments and gloves
- clothing and related product factory workers (so described)
- apparel and related product workers

Australian Bureau of Statistics (p.18, 1976a)

Details of the occupations within each class are given in appendix B. Each of the occupations listed is characteristic of the particular class. For instance, a clothing cutter, a clothing cutter (pattern) and a clothing patternmaker are occupations within the class of occupations called "Cutters of textile products, leather garments and gloves".

The number of male and female employees for each occupation class is listed in table 3.2. The data are supplied by the Australian Bureau of Statistics (1976-77).

TABLE 3.2 Number of males and females in occupation classes that are directly related to clothing production output - as at June 1976.

Classes of occupations directly related to clothing production output	Male	Female	Persons
Tailors	18	26	44
Dressmakers	0	190	190
Other garment makers, including furriers	8	12	20
Milliners	0	2	2
Upholsterers and related workers	0	0	0
Cutters of textile products, leather garments and gloves	69	38	107
Machinists, sewers, embroiderers of textile products, leather garments and gloves	8	1 194	1 202
Clothing and related product factory workers	27	65	92
Apparel and related product workers	5	14	19
Totals	135	1 541	1 676

The grand total of employees (1 676) is less than that cited for Table 3.1 because the figure of 1 676 is the number of clothing production employees as at 30 June, 1976. Totals stated for table 3.1 are taken over a whole year and must be larger because all persons employed are recorded irrespective of whether or not the employment is continuous over the twelve month period.

The above occupation classes when related to all industries, including the clothing production industry, account for 5 130 people (1 616 males and 3 514 females) employed in South Australia (Australian Bureau of Statistics, 1979b). The 1 676 persons working in the clothing industry represent 37% of people employed in the above occupation classes across the total work force. The remainder are employed in a variety of industries (for instance, wholesale and retail, and other sections of the manufacturing industry).

Seventy two per cent (1 202) of all clothing production workers are 'machinists, sewers, embroiderers of textile products, leather garments and gloves.' All except eight of these are female. Thus there is a vast preponderance of females in this occupation class.

Eleven per cent (190) are dressmakers. All of these people are female.

Six per cent (107) are cutters of 'textile products, leather garments and gloves'. The majority of these people are males.

Since the above totals are the latest available, they will be used as estimates for 1978-79 and as such contribute to an industry-occupation profile of the clothing industry.

CHAPTER 4

SURVEY METHODOLOGY

SELECTION OF CRITERIA

Criteria were selected on the basis that the survey sought to establish whether the training needs of the clothing industry were such as to require the Department of Further Education to provide educational programmes and, if so, in what areas. These criteria were then used to develop relevant questions (see questionnaire in Appendix C).

It was decided that the emphasis in the questionnaire would be on those occupations that characterise the industry. One exception would be the major occupation group of 'administrative, executive and managerial workers' and the middle level training requirements within that set of occupations.

1. SIZE OF FIRM:

   Firm size as measured by the number of employees involved in the production of the various types of merchandise would be sought. Firms would be classified into small (1-20 employees), medium (21-100 employees) and large (more than 100 employees).

2. TYPE OF MERCHANDISE:

   The type of merchandise produced by each firm would be identified according to the type of merchandise manufactured by the firm. Seven categories would be used to establish a measure of the industry's output:

   - female outer garments
   - male outer garments
   - children's wear
   - male shirts and pyjamas
   - manchester
   - female underclothing and nightwear
   - other

   Five of the categories deal specifically with garments, while manchester covers household linen requirements. More than one type could be listed against a firm.

3. TYPE OF GARMENT PRODUCED:

   An exhaustive list of specific garments would be produced for male, female and children's wear. The price range of these garments would be measured on a budget, better budget, couture scale.

4. TRAINING ACTIVITIES REQUIRED:

   It was felt necessary to obtain a broad indication of the training activities required by firms. These would be classified into the following occupation groups:

- management
- trainer training
- pattern making and design
- cutting room operations
- garment technology

Sub-categories would be formed for each group and incorporated into the questionnaire. Estimates would be sought of numbers of firms requiring training for their employees and of the number of employees requiring training for 1979-80.

The sub-categories for each occupation group would be as follows:

Management

Methods Study
Production Planning
Quality Control
Supervision

Pattern Making and Design

Design
Draping
Fashion Co-ordinating
Grading
Pattern Making Individual
Pattern Making Stock

Trainer Training

No sub-categories

Cutting Room Operations

Bundling
Cutting (bulk)
Cutting (single)
Lay Planning
Marker making
Miniature lay marking
Sorting
Spreading

Garment Technology

Finishing
Fitting
Pressing

5. MAJOR TASK AREAS FOR MACHINISTS:

Task areas required of machinists would be listed under three machine processes, namely 'single', 'multiple' and 'whole garment'. Firms would indicate the training importance of each process item. Firms would also be requested to respond to a list of machining task items which would be identified and verified prior to including them in the questionnaire.

6. USE OF MACHINERY:

Information on requirements for training in the use of various types of machinery would be sought. Nineteen types of special machinery would be listed along with the option 'other' so that firms could indicate other specialist machinery. Firms would also be requested to respond to the need for training needle trades mechanics.

7. MAJOR TASK AREAS FOR PATTERN MAKERS:

Training requirements for each of thirty major task areas required of pattern makers would be sought from respondents.

8. TRAINING ATTENDANCE TIME:

An indication of preferred training attendance times would be required. Firms would be asked to indicate whether they preferred day-release, evening release or some other pattern of attendance.

PILOTING THE QUESTIONNAIRE

Having prepared the draft questionnaire, the project officer presented it to the working party for their reaction. After some minor alterations were made, it was pilot-tested with nine firms. Approval was subsequently obtained from the working party for proceeding with the survey (see Appendix C for a copy of the questionnaire. The covering letter is shown in Appendix D).

SELECTING FIRMS TO BE INTERVIEWED

A list of industry members within the Adelaide Statistical Division was compiled with the co-operation of the Chamber of Industry and Commerce, the Australian Confederated Apparel Manufacturers, the South Australian Clothing Industry Advisory Committee and the Clothing Trade Union. From this list, sixty nine individual firms were judged to be eligible for the survey. This figure tallies closely with the figure of sixty seven obtained independently from the Australian Bureau of Statistics.

RESPONSE RATE

Fifty (72%) of the sixty nine firms eligible for interview were eventually visited. Of the nineteen non-participants, three firms had ceased operations and five firms either consisted of self-employed people or had a small staff not requiring training. Thus eight firms were considered ineligible for interview. Hence, the actual number of firms considered eligible for interview was reduced from 69 to 61. The presence of firms judged as not eligible for interview indicates the transitory nature of some small clothing firms.

Table 4.1 summarizes the above information under firms considered eligible for interview and firms considered not eligible for interview. These two groups are further subdivided into participant and non-participant categories.

TABLE 4.1 Numbers of firms considered eligible for interview and of firms considered not eligible for interview categorized into participant and non-participant groups.

	Firms considered eligible for interview	Firms considered not eligible for interview	Totals
Participant firms	50	0	50
Non-participant firms	11	8	19
Totals	61	8	69

Data were collected from fifty out of a possible sixty one firms. This represented 82.0% of the total of all clothing industry firms eligible for interview and located within the Adelaide Statistical Division.

ACCURACY OF THE DATA

Assuming a random loss of 18.0% (= 100% - 82.0%) of firms, it is possible to estimate for a prescribed confidence interval of 95% that percentage responses arising from the sample can be applied to all firms if a ±5% variation is allowed for the percentage response on a given question. For instance, in measuring the attribute 'type of garment', the sample yielded 35% of the firms identified as manufacturing female outer garments. We can be 95% confident that the percentage of all firms making female outer garments lies in the range (35±5)%, that is, between 30% and 40%.

A more technical discussion on this matter is given in Appendix E.

UNDERTAKING THE INTERVIEWS

Prior to the interview a letter was sent to each firm advising that a survey was to be conducted in order to ascertain the training needs of the clothing industry. Each firm would be contacted in due course by a member of the Department of Further Education. An appointment for interview would be sought at a time convenient to the manufacturer.

All fifty firms were visited by the project officer. Structured interviews were carried out with employers or employees nominated by the firm. In all cases those interviewed were experienced in supervising clothing production staff. Each question was read out by the interviewer and the answers were then noted on the questionnaire by the project officer. The reason for using this approach was to encourage discussion, to avoid placing staff under the strain of having to answer questions by themselves, and to ensure that relevant information was collected with the maximum possible objectivity and consistency.

ANALYSIS OF THE RESULTS

All the data were processed by computer. Approximately 20 000 separate

items of information were collated and analysed.

It was decided to produce the information as totals for each category. Percentages would be used where appropriate. Accordingly, one would have information about the general population of firms. The accuracy of such information was discussed in this chapter.

CHAPTER 5

RESULTS AND FINDINGS

Fifty one out of a possible sixty two firms participated in the survey. The data are analysed mainly in order of the criteria used to develop the questionnaire. Size of firm is cross tabulated with type of merchandise.

SIZE AND TYPE OF FIRM

Firms were classified into small (1-20 employees), medium (21-100 employees) and large (more than 100 employees).

Table 5.1 shows the total number of firms in each category of size along with the minimum and maximum number of employees for each grouping. The latter two figures are calculated from the ranges allocated for each category.

TABLE 5.1 Number of firms for each type of firm and estimates of minimum and maximum numbers of employees for each group.

Size of firm	Number of firms	Number of employees	
		Minimum	Maximum
Small	26	26	520
Medium	20	420	2 000
Large	5	505	(not available)

The number of clothing production employees for 1976 as supplied by the Australian Bureau of Statistics is 2 292. This figure is regarded as a reasonable estimate for 1978. Using the means of the maximum and minimum figures in the previous table to establish a ratio between the small and medium groups, and using a 420 to 505 ratio for the medium to large groups, produces the following estimates for each group as at 1978:

TABLE 5.2 Estimates of total number of employees for small, medium and large firms in the clothing industry as at 1978.

Size of firm	Number of firms	Estimate of number of employees
Small	26	206
Medium	20	940
Large	5	1 146
Totals	51	2 292

Twenty six firms (51%) are 'small'. These employ an estimated 206 persons (9% of total). Twenty firms (39%) are 'medium'. These employ an estimated

940 people (41% of total). Five firms (10%) are 'large'. These employ an estimated 1 146 people (50% of total).

TYPE OF MERCHANDISE:

Seven categories of merchandise were used to identify the industry's output. These products were:

- female outer garments
- male outer garments
- children's wear
- male shirts and pyjamas
- manchester
- female underclothing and nightwear
- other

Firms involved in two or more types of production were requested to identify their respective areas.

Table 5.3 lists totals of firms producing one, two, or more than two types of clothing products against firm size:

TABLE 5.3 Number of firms producing one, two or more than two types of clothing products according to size of firm.

Size of firm	Numbers of firms producing one, two or more types of merchandise			
	One type of clothing product	Two types of clothing products	More than two types of clothing products	Totals
Small	18	6	2	26
Medium	10	5	5	20
Large	2	1	2	5
Totals	30	12	9	51

The bulk of firms, thirty out of fifty one (58%), produce one type of merchandise. Within these specialist firms, 60% are small firms, 33% are medium firms and 7% are large.

Twelve firms (24%) produce two types of clothing products. All except one of these firms are in the small to medium categories. Over half of these firms (7) make both female and male garments.

Nine firms (18%) produce three or more types of clothing products. The majority of these firms (five (56%)) are of medium size.

Considering degree of specialization in relation to firm size, sixty nine per cent of small firms (18) and fifty per cent of medium firms produce one type of merchandise. Thus small and medium firms tend to specialize on one type of clothing product. Large firms are represented across each category.

Table 5.4 lists type of merchandise against type of firm (i.e. specialist (one type of garment)), intermediate (two types of garments) and general (more than two types of garments). Firms were requested to specify all types of clothing products produced. Thus the grand total exceeds the total of all firms.

TABLE 5.4 Totals for each level of specialization listed against types of merchandise produced.

Type of Merchandise	Totals for each level of specialization			Totals
	Specialist	Intermediate	General	
Female outer garments	18	10	9	37
Male outer garments	5	7	7	19
Children's Wear	1	3	6	10
Male shirts and pyjamas	1	2	6	9
Manchester	0	0	1	1
Female underclothing and nightwear	1	1	1	3
Other (please specify)	4	1	3	8
Totals	30	24	33	87

Thirty firms (59%) produce one type of product. Of these specialist firms eighteen make female outer garments and five make male outer garments. Thus the major types of products from specialist firms are female and male outer garments.

Twelve firms (equivalent to 24% of all firms) produce two types of merchandise. Nearly all of these firms produce female outer garments as one of their two lines of production. Over half of these intermediate firms make both female and male garments.

The nine 'general' firms (refer to Table 5.3) produce on average close to four types of merchandise. The maximum range is six types of products for one firm. All of these firms produce female outer garments, while the majority produce male outer garments, children's wear and/or male shirts and pyjamas.

For all firms combined, the major lines of production are female outer garments (37 firms) and male outer garments (19 firms).

TYPE OF GARMENT PRODUCED:

Firms were asked to indicate in more detail specific garments produced by the firm. The levels of quality were also indicated for female and children's garments. Level of quality is designed by 'budget' (B) 'better budget' (BB) and 'couture' (C).

TABLE 5.5 Numbers of firms producing budget, better budget and couture garments for male, female and children's wear for specific garments.

TYPE OF GARMENT		TYPE OF CUSTOMER		
		MALE	FEMALE	CHILD
Slacks	B	4	6	2
	BB	7	17	1
	C	1	4	0
Jeans	B	3	3	3
	BB	5	8	2
	C	1	0	0
Shirts	B	2	4	1
	BB	11	12	3
	C	0	3	0
Blouses	B	0	5	1
	BB	0	16	0
	C	0	4	0
Jackets	B	2	4	3
	BB	10	16	1
	C	2	6	0
Suits	B	0	3	1
	BB	2	10	0
	C	2	5	0
Coats	B	0	0	1
	BB	2	2	0
	C	2	5	0
Lingerie	B	0	0	0
	BB	0	0	0
	C	0	1	0
Skirts	B	0	7	2
	BB	1	18	1
	C	0	5	0
Waistcoats	B	1	3	0
	BB	3	14	0
	C	1	4	0
Nightwear	B	0	0	0
	BB	0	0	0
	C	0	1	0
Knitted Tops	B	1	1	1
	BB	3	3	3
	C	0	0	0
Frocks	B	0	6	4
	BB	0	17	2
	C	0	4	0
Dressing Gowns	B	1	2	2
	BB	1	3	0
	C	0	1	0
Shorts	B	2	2	4
	BB	4	9	1
	C	0	1	0
Swim Wear	B	0	0	0
	BB	0	1	0
	C	0	0	0
Other	B	0	0	0
	BB	1	1	2
	C	0	2	0

Within the male section, the predominant quality is clearly 'better budget'. The pattern is the same for female and children's wear. This indicates that the level of skill required to produce garments is generally midway between that required for unskilled and highly skilled work.

Responses of fifteen (i.e. 30%) or higher for respondent firms were recorded for female slacks (BB), female blouses (BB), female jackets (BB), female skirts (BB) and female frocks (BB). This confirms that 'female outer garments' was clearly the dominant grouping.

IMPLICATIONS FOR TRAINING

It is considered that decisions made in regard to training requirements of the clothing industry should take into account three important factors:

- firm size
- degree of specialization
- type of merchandise produced

TYPES OF TRAINING REQUIRED BY FIRMS

Firms were requested to indicate the numbers of employees likely to require training in 1978 and 1979/80 according to the following groups of occupations:

- management
- pattern making and design
- trainer training
- cutting room operations
- garment technology

Sub-categories were formed for each group and data were sought on these items within question 3 of the survey form.

MANAGEMENT LEVEL ACTIVITIES:

Table 5.6 lists estimates of the number of firms requiring training for their employees and the number of firms requiring training during 1979/80. Four categories of management training were specified.

Between 14 (27%) and 28 (55%) of respondent firms indicated that some form of management training was required for their employees. The major requirement for firms was supervision.

Estimates of number of employees requiring training ranged from 18 to 27 for the two years 1979/80. As at 1976, 124 persons are employed in this group (see table 3.2). Assuming that all employees listed in table 5.6 came from this group, then at least 18 (15%) of the 124 require management training over the two years. The actual numbers requiring training could be much higher. Some firms mentioned to the interviewer that the current economic climate and government policy made it extremely difficult to

forecast accurately the training requirements for the industry. Employer hesitancy is reflected in the fact that 27 employees are listed for supervision training, yet 28 firms indicate that some training is required.

TABLE 5.6 Number of firms requiring management training for employees and estimate of number of employees requiring such training during 1979/80.

Management activities	Number of firms requiring training for employees	Estimated number of employees requiring training during 1979/80
Methods Study	14	18
Production Planning	17	26
Quality Control	17	23
Supervision	28	27

Some firms considered the management area to be a high priority training area as management expertise has a critical effect on productivity. A rise in management efficiency would improve the quality and quantity of a firm's output.

It is considered that the estimates shown in table 5.6 are minimum amounts; the actual demand could be considerably higher. Even so, it is expected that course enrolments would increase as the value of an effective programme becomes more widely appreciated.

PATTERN MAKING AND DESIGN ACTIVITIES:

Table 5.7 lists numbers of firms committed to training in six different types of pattern making and design activities. Estimates of numbers of likely enrolments are also given.

TABLE 5.7 Number of firms requiring training programmes in pattern making and design, and estimates of number of employees requiring such training during 1979/80.

Pattern making and design activities	No. of firms requiring training for employees	Estimate of no. of employees requiring training during 1979/80
Design	27	18
Draping	6	6
Fashion Co-ordinating	21	13
Grading	32	25
Pattern Making Individual	22	15
Pattern Making Stock	36	28

Between 21 (40%) and 32 (63%) firms indicated that training programmes were required for five of the six pattern making and design activities. The major requirement was for pattern making stock.

As for the previous table, the actual number of employees listed for training is regarded as a minimum figure. The hesitancy of firms to commit themselves to an estimate of student enrolment is borne out by the fact that some student training estimates exceed the number of firms expressing interest. (For instance, 28 students are recorded for training in pattern making stock, but 36 firms indicate an interest).

TRAINER TRAINING:

Fifteen (30%) firms responded to the question on trainer training. Fifteen students were listed for training during 1979/80.

CUTTING ROOM ACTIVITIES:

Table 5.8 lists numbers of firms requiring training in eight types of cutting room activities. Estimate of student requirements for 1979/80 are also given.

TABLE 5.8 Numbers of firms requiring a training programme in eight different types of cutting room activities, and estimates of number of employees requiring such training during 1979/80.

Cutting room activities	No. of firms requiring training for employees	Estimate of number of employees requiring training during 1979/80
Bundling	12	10
Cutting (bulk)	23	19
Cutting (single)	17	11
Lay Planning	15	14
Marker Making	12	11
Miniature Lay Marking	2	1
Sorting	13	10
Spreading	13	10

Except for 'Miniature Lay Marking', demand for training is spread fairly evenly across all categories. Between 12 (23%) and 23 (45%) of respondent firms indicated that programmes were required. Once again firms were loath to commit themselves to a strict estimate of training demand.

'Miniature Lay Marking' is used fairly widely in Victoria within large firms. The fact that South Australia has a much smaller number of large firms, probably accounts for the shortage of 'Miniature Lay Marking' demand in this State.

GARMENT TECHNOLOGY:

Garment technology activities are classified into three types for the purpose of estimating the training requirement.

TABLE 5.9 Number of firms requiring a training programme in Garment Technology, and estimates of number of employees requiring such training during 1979/80

Garment Technology Activities	Number of firms requiring training for employees	Estimate of number of employees requiring training for 1979/80
Finishing	16	13
Fitting	20	12
Pressing	25	15

Between 16 (31%) and 25 (50%) of respondent firms require a training programme in one of the three garment technology activities. Student numbers range from 12 to 15. These are considered to be minimum figures.

GENERAL REMARKS ON OVERALL TRAINING REQUIREMENTS:

The response from firms is summarized below:

Management - between 27% and 55% of respondent firms indicated that training was required in each of four management activities

Pattern Making and Design - between 40% and 63% of respondent firms indicated that training was required in each of six activities

Trainer Training - 30% of respondent firms indicated that a training programme was required.

Cutting Room Operations - between 23% and 45% of respondent firms indicated that training was required in each of eight activities

Garment Technology - between 31% and 50% of respondent firms indicated that training was required in each of three activities.

MACHINIST TRAINING AND TASKS

Information was also sought about the training requirements for machinists. Demand for training in specific tasks was also sought.

Forty three firms (84% of all firms) consider that machinist training is required.

Firms were asked to indicate which of single, multiple and 'whole garment' processes should be taught. Firms were allowed more than one choice.

Twenty five firms (50% of participant firms) requested 'multiple' and 'whole garment' process training.

TABLE 5.10 Number of firms seeking training for employees in 'single', 'multiple' and 'whole garment' processes.

Machine Processes	Number of firms requesting training
Single	4
Multiple	25
Whole garment	25

MACHINING TASKS:

Firms were asked to indicate which items within a given set of tasks should be taught to students. The totals are listed in table 5.11.

TABLE 5.11 Number of firms requiring training for various machining tasks.

Machining Tasks	Firms Requiring Training
Stitching round collars or flaps	37
Stitching pointed collars or flaps	37
Stitching scallops	30
Stitching zip	39
Patch Pockets	38
Bagged Pockets	35
Slit or Bound Pockets	34
Stitching darts	35
Attaching neck facing	34
All in one facing	33
Hemming (without hemmer foot)	38
Hemming (with hemmer foot)	36
Attaching binding (without a binder)	38
Attaching binding with binder	33
Gathering (on straight sewer)	34
Gathering (with differential)	31
Gathering foot	32
Shirring	31
Attaching collar with facing	34
Attaching collar without facing	35
Setting in sleeves	34
Attaching waistband with straight sewer	32
Attaching waistband with bander	20

All except one task rated 31 respondent firms or higher. Thus demand is 61% or higher for respondent firms. The maximum is 76% for 'stitching zips' (39 respondents) and 40% minimum for 'attaching waistband with bander'. One possible reason for the low preference for this latter item is that the process is a mass production operation.

Given an adequate supply of trainees, it would seem that all except one listed task would be relevant to a training programme.

SEWING MACHINE MECHANICS:

Forty nine per cent (25 respondents) of firms indicated that they require training for sewing machine mechanics.

SPECIAL MACHINERY:

A range of special machinery is used within the clothing industry. Firms were asked to indicate which types of machinery were important insofar as training is concerned. They were also asked to estimate the number of employees presently requiring training on each of these machines.

TABLE 5.12 Number of firms requiring training programmes for items of special machinery along with estimates of possible student numbers.

Items of Special Machinery	No. of firms requiring training for employees	Estimate of no. of employees requiring training during 1979/80
Industrial Straight Sewing Machine	40	59
Safety Stitch 5 thread	33	46
Safety Stitch 4 thread	14	23
Overlocker 2 thread	12	13
Overlocker 3 thread	27	31
Blind Hemmer	30	35
Buttonhole	26	23
Twin-needle	15	19
Button-sewer	17	17
Feed off the arm	8	21
Embroidery	5	16
Under bed thread trimmer	9	16
Bander	9	18
Bar-tack	9	15
Cutter (cylindrical)	10	7
Cutter (straight-knife)	15	14
Variator Pattern Grader	4	2
Electrical Drill	5	1
Differential Straight Sewer	9	16
Other	0	0

Eight of the nineteen machines listed attracted a response of 15 or more firms (i.e. 30% or higher). Student estimates were 15 or higher for fourteen of the machines. The fact that there is a zero return for the 'other' category indicates that the list is an exhaustive one.

TRAINING IN PATTERN MAKING PROCESSES

Firms were asked to indicate whether or not they required training in pattern making processes. These processes were further subdivided into male, female and children's garments.

TABLE 5.13 Numbers of firms requiring training in various pattern making processes, listed for male, female and children's garments

Pattern making processes	Number of firms requiring Training for male, female and children's wear		
	MALE	FEMALE	CHILDREN
Grain balance	16	31	8
Dart control and transfer	17	30	8
Ease allowance	17	30	8
Sizing	18	31	7
Australian Standard Size Coding Scheme	17	31	8
Construction Patterns	18	31	8
Final Patterns	18	31	8
Seam Allowance	18	31	7
Trueing and Blending	17	30	6
Tucks	16	28	6
Gathers	15	29	7
Facings	17	30	7
Button stand	17	30	8
Measurements (taking of)	18	30	7
Pleats	16	30	7
Panel	16	30	7
Panel (Gores) (Flares)	16	30	7
Collars	17	30	7
Sleeve designs (one piece)	16	30	7
Sleeve designs (two piece)	17	30	7
Yokes	17	29	7
Pockets	17	29	7
Blouses	15	29	7
Shirts	16	29	7
Princess line	15	29	7
Raglan	16	29	7
Magyar	14	29	7
Tailored Collars	17	29	7
Continuous Roll	15	28	7
Other (please specify)	10	19	5

Total demand across all twenty nine pattern making processes was uniformly high for female garments (most items attracted close to 60% of respondent firms). Female wear training requirements almost doubled those for male

garment training on each pattern making process item. Children's wear training requirements were approximately half those for male garments.

FIBRE TECHNOLOGY

Twenty one firms (41%) indicated that training in fibre technology is required.

ATTENDANCE PATTERNS

Information was also sought from firms in relation to preferred attendance patterns. Firms were allowed to select more than one category.

TABLE 5.14 Numbers of firms preferring given attendance times.

Attendance pattern options	Number of firms
Evening only	21
Mid afternoon, e.g. 4 p.m. - 7 p.m.	15
Day release, e.g. 1 day per week	9
Day release plus 1 evening	11
Block release, e.g. 1 week	3
Block release, e.g. 2 weeks	2

The strongest preference (21 firms) was for evening attendance. Fifteen firms supported mid-afternoon release, while fewer firms supported day release. There was little support for block release.

COMMENTS REGARDING COLLEGE TRAINING

This survey has concentrated solely on college training requirements. The terms of reference given to the working party did not include training within industry, the reason being that little college training was being provided for the industry. Firms have generally been expected to supply the full complement of training programmes.

Firms were invited to make comment concerning any aspects of college training. These comments were content analysed. Comments are listed in the following table in rank order of the number of times each comment was mentioned by firms. The percentages in the table can be considered as minimums, as the question was open-ended. Firms stated only those aspects that came to mind and were of importance to them. Thus one could expect response rates to be higher if firms were given a series of structured questions.

TABLE 5.15 Frequency of comment from firms in regard to college training

Comments regarding college training	Frequency
Speed and quality are essential for employment	17
The present college location is too far from Adelaide	12
Home dressmaking experience is not suitable for the industry	9
Basic training is most beneficial	8
We require an experienced machinist not a process worker	8
We require junior staff	6
There should be an apprenticeship system	5
It is difficult to find out who are interested	5
Training is long overdue	3
Why bother to train people as there is no guarantee that staff will stay	3
It is a difficult task because of the complexity of industry	3
The course should produce an all-round adaptable person	2
We did not know about the course	1

Seventeen firms (33%) regarded speed and quality as essential for employment. This factor is important especially as 'better budget' quality was considered a preferred level of output. Speed and quality are essential for achieving a satisfactory level of productivity.

Twelve firms (23%) noted that the Elizabeth Community College location was too distant from the city of Adelaide. This information confirmed the decision that the Marleston College of Further Education location was more appropriate.

Even though the comments in table 5.15 were voluntarily supplied by firms in response to an open-ended question, nine respondent firms (18%) indicated that home dressmaking experience was not suitable for the industry. In view of this the working party pursued the question further and concluded that the Garment Design and Construction Certificate Course, which trained home dressmakers, was not appropriate to the clothing industry.

One employer upon reading the final draft copy of this report did stress the fact that all too often very few experienced persons apply for machinist positions. This makes interviewing a most time consuming task as the employer has to spend large amounts of time identifying those applicants with the potential to succeed. Once employed, these persons need to be trained. It is also pointed out that as older trained persons retire from the workforce few trained replacements are available.

Another employee referred to the need for persons undertaking college training to be screened for dexterity, colour blindness and left-handedness.

No matter how much training a trainee machinist receives, the person would still be unsuitable for employment as a machinist in the clothing industry. The same person may, however, be eligible for employment in other industries where, for instance, colour discrimination may not be such an important factor.

CONCLUDING COMMENTS

The clothing industry was hesitant to commit itself to an exact estimate of likely student enrolments, this being due to the current depressed economic climate and uncertainty in relation to government policy. The apparent anomaly between estimates of student numbers and response of firms for training in particular activities further confirms this hesitancy. Thus estimates of student numbers are considered to be well below a realistic figure. Training programmes mounted by the Department of Further Education could be expected to attract appreciably larger numbers of students than those submitted by firms.

It was pointed out that other important questions were not considered in this survey. Some of these matters dealt with:

- the labour turnover rates in the clothing industry
- the age spread of employees in key occupational areas
- the impacts of new technologies and in particular the advances in machine design and capacities.

It is accepted that these questions are of great importance to the industry and their educational implications do require examination. Nevertheless, it was considered appropriate to investigate these matters at some future date.

CHAPTER 6

SUMMARY OF FINDINGS, IMPLICATIONS FOR TRAINING AND RECOMMENDATIONS

This chapter draws together the results from previous chapters in the form of findings that apply to all firms. Training implications are stated, and the recommendations formulated on the basis of these implications are reported in this document. Findings arose from two major sources: data supplied by the Australian Bureau of Statistics and data accumulated during the survey.

SUMMARY OF STATISTICAL INFORMATION OBTAINED FROM THE BUREAU OF STATISTICS

Data, drawn largely from the Bureau of Statistics information bank, were analysed to produce the following findings. The statistics apply to the 1976 year but are considered relevant to 1978.

- there are 71 clothing production firms in South Australia, with all except four located in the Adelaide Statistical Division.

- there are approximately 2 300 employees in the clothing industry. 83% are females. Five of eight major occupation classifications are dominated by females and these occupations are generally at lower skilled levels.

- 82% of all employees are 'production-process workers'. This occupation is characteristic of the industry in that these employees deal specifically with the production of those goods that characterise the industry. This group accounts for 37% of all people employed in this occupation group for all industries combined.

- 6% of all employees in the clothing industry are clerical workers.
  5% are administrative, executive and managerial workers.
  5% are service, sport and recreation workers.

- There are close to 1 200 machinists, sewers and embroiderers in the industry.

  190 employees are dressmakers.

  107 employees are cutters.

SUMMARY OF FINDINGS ARISING FROM THE SURVEY

An analysis of the survey data gave rise to a series of general findings. Where percentages of firms are stated, the percentage applies to all firms in the Adelaide Statistical Division; one can be 95% certain that the actual percentage for all firms is within ±5% of the percentage for the respondent firms. Sixty one firms were considered eligible for the survey. Interviews were held with fifty of these firms.

FIRM SIZE AND TYPE OF GARMENT:

- 51% of all firms are 'small', 39% are 'medium' and the remainder are 'large'.
- small firms employ an estimated 9% of all employees, medium firms 41% of all employees, and large firms 50% of all employees.
- most firms produce one type of merchandise. Most of these specialist firms are small or medium in size. Most of these firms make female or male garments.
- all except one firm producing two types of merchandise are small or medium in size. Nearly all firms making two types of products produce female garments as one of their lines of production. Over half of these firms produce both male and female outer garments.
- the nine multi-purpose firms produce, on average, close to four types of merchandise. Most of these firms are medium in size. Most of these firms produce female outer garments, male outer garments, children's wear, and male shirts and pyjamas.
- the strongest preference by far is for female outer garment production. 73% of firms produce female outer garments, 37% produce male outer garments; and 'children's wear' and 'male shirts and pyjamas' account for a further 19%.
- the predominant quality garment is 'better budget' across male, female and children's wear.
- for female outer garments, the main garments produced are slacks, blouses, jackets, skirts and frocks. The major quality level is 'better budget'.

TYPES OF TRAINING REQUIRED BY EMPLOYERS:

- Management training and trainer training attracted between 25% and 50% of firms for all activities listed.
- Pattern making and design training was supported by 40% to 63% of firms for the six activities listed.
- Garment technology training was supported by 31% to 50% of firms on the three activities listed.
- Training in cutting room operations was supported by 23% to 45% of firms on the eight activities listed.
- The clothing industry was hesitant to commit itself to firm estimates of student numbers. The interviewer was able to ascertain that the depressed economic climate and uncertainty in relation to government policy were the two most important factors.

MACHINIST TRAINING AND TASKS:

Most of the demand (50% of firms) is for 'multiple' and 'whole garment' process training.

All except one of the twenty three listed tasks attracted 61% of firms or higher.

SEWING MACHINE MECHANICS:

Forty nine per cent of firms indicate that they require training for sewing machine mechanics.

SPECIAL MACHINERY:

Eight of the nineteen machines listed attracted a response from firms of 30% or higher.

TRAINING IN PATTERN MAKING PROCESSES:

Total demand across all twenty nine pattern making processes is uniformly high for female garments (most items attracted close to 60% of firms).

Female wear training requirements almost double those for male garment training on each pattern process item. Children's wear training requirements are approximately half those for male garments.

FIBRE TECHNOLOGY:

Forty one per cent of firms indicate that training in fibre technology is required.

ATTENDANCE TIMES:

The strongest preference (21 firms) is for evening attendance. Fifteen firms support mid-afternoon release while fewer firms support day release.

There is little support for block release training.

COLLEGE TRAINING:

A minimum of 33% of firms regard speed and quality as essential for employment.

A minimum of 18% of firms indicate that home dressmaking experience is not suitable for the clothing industry.

IMPLICATIONS FOR TRAINING

A number of areas of specific training requirement can now be stated. These cover requirements for specialist areas of training and for courses to service these demands.

Specialist areas of training are required in the following occupational areas:

- management level (work study, quality control, production planning, supervision).
- pattern making and design (stock).
- pattern making and design (made to measure).

- cutting (bulk).
- cutting (single).
- fitting, finishing, pressing (garment technology).
- machining.

Each area of training requirement is described below.

1. THE MANAGEMENT LEVEL:

   This segment would provide specialist areas of training aimed specifically at management level.

2. PATTERN MAKING (STOCK):

   As the needs of the industry are so diverse, a course in basic pattern making may be sufficient to cater for the needs of some firms. Even so, it is considered that an advanced course in pattern making would be required to meet the needs of that section of the industry which requires specialists with in-depth knowledge of the factors associated with pattern making.

3. PATTERN MAKING (MADE TO MEASURE):

   A separate course in 'made to measure pattern making' appears to be required for those working specifically in made to order manufacturing.

4. CUTTING (BULK):

   A separate course on bulk cutting would provide training for trainee cutters with emphasis on marker making and spreading. This course may be sufficient to meet the needs of one part of the industry. Those requiring higher level training may require an advanced course in cutting room management to cater for cutters and supervision of cutting rooms.

5. CUTTING (SINGLE):

   This segment would be organised specifically to meet the needs of the made-to-measure section of the trade.

6. GARMENT TECHNOLOGY:

   This section would include technical aspects of assembling, fitting, pressing and finishing. It would meet the needs of the trade requiring these aspects.

7. MACHINING:

   This is the most significant area requiring training. It should be given top priority in terms of provision and resources.

   Because of the diverse needs of the clothing industry, it is evident from the survey results that machinist training is required in four areas:

(1) straight sewer

(2) multiple processes

(3) special machinery

(4) whole garments.

In order for students to receive training appropriate to their needs it would be necessary to provide training in modular form. Students would take only those modules relevant to their skill training needs.

RECOMMENDATIONS FOR COURSES

As a result of the findings in each of the above areas, it is apparent that there is a definite need to develop four separate and distinct certificate courses. Within each of these courses there should be a range of topics to suit the needs of individual firms and students.

The essential features of the four course areas are described below:

(1) CERTIFICATE COURSE FOR MACHINIST:

Such a separate course for Machinists would cater for:

(a) basic knowledge, performance, control and speed on the straight industrial sewing machine.

(b) multiple processes on straight industrial sewing machines.

(c) basic training on the performance and use of special machinery.

(d) a special segment on whole garment assembly. (Appendix G illustrates the proposed grouping of topics for this certificate course.)

(2) CERTIFICATE COURSE FOR PATTERN MAKING:

The Pattern Making Course should be conducted in two phases:-

Phase I - to provide basic skills in pattern making.

Phase II - to develop further knowledge and specialist skills in pattern making.

The survey indicates that separate courses should be provided in: female stock, female made to measure manufacture, male stock, male made to measure manufacture and children stock. (Appendix H outlines the proposed course).

(3) CERTIFICATE COURSE IN CUTTING:

A separate course in cutting is required to provide skills in:

(a) lay-marker making

(b) spreading

(c) equipment

(d) sorting

(e) bundling

(f) cutting

(4) CERTIFICATE COURSE IN MANAGEMENT:

Four separate management areas are warranted:

(a) Work Study

(b) Quality Control

(c) Production Planning

(d) Supervision

It is envisaged that each of the courses would be presented in modular form thus allowing students to select portions of the course suited to their needs. Students would not be obliged to complete all modules within a full certificate course.

SOME IMPORTANT CURRICULUM MATTERS

There are other curriculum issues:

1. The study has shown that there is a clear training requirement within the clothing industry for a range of training courses. There is some knowledge of the level of training required, and an understanding of the level of skill appropriate to each occupation is now generally understood. It may be appropriate at some future date to 'tease out' some of these skills a little further, especially in occupations that were not surveyed.

   Even so, it is considered that the information gathered to this point should be used to develop viable courses for clothing industry employees. These programmes should be allowed to stabilize over an extended period of three to five years.

2. A large number of occupations exist within the clothing industry. Many of these occupations were not examined during the survey. For instance, the training needs of the range of occupations filled by the 143 clerical workers were not considered. There was some indication that these people do not receive adequate training opportunities. An investigation of this group's needs is required.

3. Special attention should be given to identifying those skills that relate to operator speed, product quality and management efficiency. These skills contribute to increased productivity.

4. The occupations of cutter and machinist exist in other industries. In fact only 37% of all those engaged in occupations that are considered typical of the output of the clothing industry are employed in the industry. This situation would suggest a training need for the remain-

ing 63%. The matter should be considered by the working party and an appropriate course of action recommended, taking into account that cutters and machinists working outside the clothing industry may require skill training in areas other than those already identified.

5. Should the industry seek increasingly to compete internationally as well as nationally for the sale of its products, it may be necessary to produce even higher quality garments and still maintain a competitive cost structure. Maximum levels of operator and management skill would be highly desirable to achieve this end. The role of the Department of Further Education would become critically important in engendering and maintaining a high quality output. A flexible and adaptable college training programme would complement industry training.

6. The skills acquired in the Garment Design and Construction Certificate Course are appropriate to the home dressmaker but not to the clothing industry employee. The needs of garment design and construction should be considered separately from those of the clothing industry until such time as common clients and skills are identified. An analysis of training needs followed by a job profile is required as a first action in the garment design and construction area.

7. It is intended that information from this survey will be used to develop learning objectives for each clothing industry course. These performance statements will be derived from the task lists and then used to develop a full curriculum programme. Emphasis would be placed on closely integrating college training and on-the-job experience.

RECOMMENDATIONS

The following recommendations arise from this study:

It is recommended that:

(1) an analysis of skill areas should be undertaken for those occupations that are typical of the output of the clothing industry and which were not surveyed in this study.

(2) performance analysis should be undertaken of selected occupations within the clothing industry and of the same occupations in other industries.

(3) the Garment Design and Construction Certificate Course should for the time being be considered independently of the Clothing Industry Courses.

(4) the present Clothing Industry Courses should be allowed to stabilize over an extended period of three to five years and no major revisions should occur during that time.

(5) resources allocations should be planned on the basis of the report findings along with other information subsequently gathered.

The following recommendations were formulated by the working party. It is recommended that:

(1) the existing Clothing Production Certificate be replaced with four specific certificate courses to meet the training needs of the clothing industry. That these be:

- Certificate Course for Machinists
- Certificate Course for Pattern Making
- Certificate Course in Cutting
- Certificate Course in Management

(2) the programme within each certificate be flexible to cater for the specific needs of different sectors of the industry.

(3) credit be given to students who have relevant work experience but who are unable to meet the required educational pre-requisites.

(4) priority be given to the Machinist and the Pattern Making Phase I Courses.

(5) the above two courses be offered on a full and part-time basis.

A proposal to this effect was prepared and submitted to the Director-General of Further Education for approval.

APPENDIX A

APPENDIX A

DESCRIPTIONS OF CLOTHING INDUSTRY GROUPS

CLOTHING UNDEFINED

Establishments mainly engaged in manufacturing clothing which are inadequately described and therefore cannot be classified to Classes 2421 to 2428.

Some of the typical descriptions are listed below under the heading "Primary Activities".

PRIMARY ACTIVITIES

Clothing, waterproof or oilskin, mfg
Coats mfg
Macintoshes mfg
Protective clothing mfg
Rainproof garment mgf

WOMENS AND GIRLS BLOUSES AND FROCKS

Establishments mainly engaged in manufacturing womens or girls blouses, shirts, frocks or dresses (except from fabrics knitted at the same establishment or from leather or fur). Establishments mainly engaged in womens custom dressmaking are included in Class 4844.

PRIMARY ACTIVITIES

Blouses or shirts, womens or girls, mfg (except from fabrics knitted at the same establishment)
Frocks or dresses mfg (except from fabrics knitted at the same establishment or from leather)
Tunics, womens or girls, mfg

WOMENS AND GIRLS OUTERWEAR N.E.C.

Establishments mainly engaged in manufacturing womens or girls suits, skirts, slacks, shorts, coats or other outerwear (except from fabrics knitted at the same establishment or from fur, leather or rubber) n.e.c. Establishments mainly engaged in manufacturing knitted clothing (except cardigans, pullovers, etc.) from fabrics knitted at the same establishment are included in Class 2413. Establishments mainly engaged in womens custom dressmaking are included in Class 4844.

PRIMARY ACTIVITIES

Coats or jackets, womens or girls, mfg (except from fabrics knitted at the same establishment or from fur, leather or rubber) n.e.c.
Outerwear, womens or girls, mfg (except from fabrics knitted at the same establishment or from fur, leather or rubber) n.e.c.

Shorts, womens or girls mfg (except from fabrics knitted at the same establishment or from leather)

Suits, womens or girls, mfg (except from fabrics knitted at the same establishment or from leather) n.e.c.

Slacks, womens or girls, mfg (except from fabrics knitted at the same establishment or from leather) n.e.c.

Suits, womens or girls, mfg (except from fabrics knitted at the same establishment or from leather)

MENS AND BOYS TROUSERS AND SHORTS; WORK CLOTHING

Establishments mainly engaged in manufacturing mens or boys trousers or shorts (except uniform or suit trousers) or mens or womens work clothing (except work shirts or work clothing from rubber, leather or plastic).

PRIMARY ACTIVITIES

Dust coats mfg
Jeans, mens or boys, mfg
Jodhpurs mfg
Overalls mfg
School trousers mfg
Shorts, mens or boys, mfg
Trousers, mens or boys, mfg (except waterproof, or uniform or suit trousers)
Work clothing mfg (except shirts or waterproof clothing)

MENS AND BOYS SUITS AND COATS; WATERPROOF CLOTHING

Establishments mainly engaged in manufacturing mens or boys suits, coats or uniforms (except from leather) or waterproof clothing of all kinds. Establishments mainly engaged in mens custom tailoring are included in Class 4843.

PRIMARY ACTIVITIES

Clothing, plastic, mfg (except headwear or footwear)
Coats or jackets, mens or boys, mfg (except from leather)
Oilskin clothing mfg (except headwear or footwear)
Overcoats, mens or boys, mfg (except from leather)
Clothing, rubber or rubberised, mfg (except headwear or footwear)
Suits, mens or boys, mfg (except from leather)
Uniforms, mens or boys, mfg (except from leather)
Waistcoats, mens or boys, mfg (except from leather or knitted)
Waterproof clothing mfg (except from leather)

UNDERWEAR, NIGHTWEAR, MENS AND BOYS SHIRTS AND INFANTS AND BABIES CLOTHING N.E.C.

Establishments mainly engaged in manufacturing underwear, nightwear, mens or boys shirts or infants or babies clothing (except from fabrics knitted at the same establishment) n.e.c.

PRIMARY ACTIVITIES

Dressing gowns mfg
Infants or babies clothing mfg (except from fabrics knitted at the same establishment) n.e.c.
Lingerie mfg (except from fabrics knitted at the same establishment)
Nightwear mfg (except from fabrics knitted at the same establishment)
Pyjamas mfg (except from fabrics knitted at the same establishment)
Shirt collars mfg (except from fabrics knitted at the same establishment)
Shirts, mens or boys, mfg (except from fabrics knitted at the same establishment)
Underwear mfg (except from fabrics knitted at the same establishment, or foundation garments)
Work shirts mfg (except from fabrics knitted at the same establishment)

FOUNDATION GARMENTS

Establishments mainly engaged in manufacturing foundation garments.

PRIMARY ACTIVITIES

Abdominal supports mfg
Belts, garter, surgical, suspender or sanitary, mfg
Brassieres mfg
Corsets mfg
Foundation garments mfg
Girdles mfg
Maternity foundation garments mfg
Surgical belts, corsets, girdles or supports mfg

HEADWEAR

Establishments mainly engaged in manufacturing hats, caps or millinery.

PRIMARY ACTIVITIES

Berets mfg
Caps mfg (headwear)
Felt hats mfg
Hat bands mfg
Hats mfg
Headwear, plastic, mfg
Headwear, rubber or rubberised, mfg
Millinery mfg

CLOTHING N.E.C. AND CLOTHING TRADE SERVICES

Establishments mainly engaged in manufacturing handkerchiefs, ties, scarves, gloves, belts (except belts from leather or leather substitutes) or clothing n.e.c. Establishments mainly engaged in manufacturing fur or leather garments are included in this Class. Establishments mainly engaged in providing clothing trade services such as hemstitching, basque knitting or buttonholing are also included in this Class.

PRIMARY ACTIVITIES

Academic gowns mfg
Aprons mfg (except from rubber or plastic)
Basque knitting
Burial garments mfg
Buttonholing
Belts mfg (for clothing except from leather or leather substitute) n.e.c.
Boot laces, textile, mfg
Clothing accessories mfg n.e.c.
Clothing accessories or trimmings, fur, mfg
Clothing, fur, mfg
Clothing, leather, mfg
Clothing mfg n.e.c.
Clothing trade services n.e.c.
Costumes, theatrical, mfg
Fur garments mfg
Gloves mfg (except from rubber)
Handkerchiefs mfg
Hemstitching
Life jackets mfg
Regalia mfg
Scarves mfg
Sheep skin clothing mfg
Shoe laces, textile, mfg
Sports gloves mfg
Suspenders mfg (except from leather or leather substitute)
Swimwear mfg (except from fabrics knitted at the same establishment)
Ties mfg
Toys, fur, mfg
Track suits mfg
Work gloves mfg (except from rubber)

APPENDIX B

LIST OF OCCUPATION CLASSES AND OCCUPATIONS FOR TAILORS, CUTTERS, FURRIERS AND RELATED WORKERS

TAILORS

Baster, tailoring
Coat hand, tailoring
Finisher, tailoring
Fitter-up, tailoring
Improver, tailoring
Renovator, tailoring
Repairer, tailoring
Riding habit maker
Tailor
Tailored skirt maker
Tailoress
Tailors improver
Trimmer, tailoring
Trouser hand, tailoring

DRESSMAKER

Alteration hand, frock
Costumiere
Dressmaker
Fitter-up, dress
Renovator, dress
Repairer, dress

OTHER GARMENT MAKERS, INCLUDING FURRIERS

Blouse maker
Clothing finisher
Collar turner
Cutter, fur
Finisher, clothing
Foundation garment maker
Fur classer
Fur cutter
Fur dyer
Fur examiner
Fur finisher
Fur nailer
Fur renovator
Furrier, manufacturing
Fur tailor
Glove maker
Habit maker, clerical clothing
Handkerchief maker
Leather garment maker
Mender, clothing
Oil coat maker
Pyjama maker
Regalia worker
Renovator, clothing, n.e.c.
Repairer, clothing, n.e.c.
Robe maker, not dress
Scarf maker
Shirt maker
Skirt maker, not tailored
Tie maker
Underclothing maker, not knit
Waterproof clothing maker
White worker, textile

MILLINERS

Milliner
Milliner, trimmer
Modiste, milliner
Renovator, milliner

UPHOLSTERERS AND RELATED WORKERS

Assembler, car upholstery
Blind maker, holland
Blind maker (so described)
Carpet cutter
Carpet layer
carpet layers assistant

Carpet laying contractor (so described)
Carpet planner
Carriage trimmer, railway
Car seat cover maker
Coach trimmer
Contract carpet cutter and layer (so described)
Contract lino layer (so described)
Curtain fitter
Cushion builder, vehicle
Cutter, carpet
Fabric worker, aircraft
Holland blind maker
Hoodmaker, baby carriage
Inner spring mattress maker
Lampshade maker, fabric
Liner, car upholstery
Lino laying contractor (so described)
Linoleum layer
Loose sheet cover maker, upholstery
Mattress maker, not wire
Mattress maker (so described)
Motor body trimmer
Padder, upholstering
Palliasse maker
Paster, vehicle body trimming
Press operator, mattress maker
Quilt maker
Soft furnishings maker
Stuffer, upholstering and mattress making
Trimmer, motor body
Trimmers assistant, upholstery
Trimmer, upholstering
Upholsterer

CUTTERS, TEXTILE PRODUCTS, LEATHER GARMENTS AND GLOVES

Blind cutter, holland
Chalker, clothing
Clicker, leather garments and gloves
Clothing clicker
Clothing cutter
Cutter, clothing
Cutter, fabric lampshade
Cutter, garments, leather
Cutter, gloves
Cutter, hat and cap making
Cutter, pattern, clothing
Cutters assistant, tailoring
Cutter, textile product
Cutter, upholstering
Cutter, waterproof material
Dress cutter
Layer-up, clothing making
Lay planner, textile product
Marker-off, canvas goods maker
Marker-off, clothing making
Pattern cutter, clothing
Pattern grader, clothing maker
Patternmaker, clothing
Patternmaker, fur
Patternmaker, hat and cap
Penciller, clothing making
Rubber textile cutter
Shaper, clothing
Stock cutter, clothing
Tailors cutter
Tailors shaper
Tie cutter

MACHINISTS, SEWERS, EMBROIDERERS, TEXTILE PRODUCTS, LEATHER GARMENTS AND GLOVES

Art needle worker
Badge maker, embroidery
Bag machinist, textile
Bag sewer, textile
Bale machinist, textile
Beader, clothing
Braider, clothing
Button coverer
Buttonhole machinist, clothing
Buttoning machine operator
Button sewer
Carpet sewer
Clothing hemmer
Clothing machinist
Clothing pleater
Cornelly worker, textile
Corset machinist
Dress machinist, clothing making
Edger, clothing making
Embroiderer
Embroidery machinist

Eyeletter, clothing making
Fancy worker, textile
Feller, clothing making
Flatlocker, knitted goods and hosiery
Fringer, clothing making
Garment machinist
Glove machinist
Hand and machine sewer, clothing making
Hand embroiderer
Hand sewer, clothing making
Hat liner
Hat sewer
Hemstitcher
Hosiery seamer
Household linen maker
Interlocker, knitted goods and hosiery
Invisible mender, tailoring
Jute bag machinist
Leather machinist, clothing making
Linker, knitting mill
Looper, hosiery
Looper, textile
Machine embroiderer, textile
Machinist, clothing
Machinist, furnishing draper
Machinist, hat and cap
Machinist, quilting, textile
Machinist, tailoring
Needle hand, canvas goods
Needlewoman
Overlocker, knitted goods and hosiery
Plastic machinist, handbag
Pleater, clothing
Quilting machinist, textile
Sack machinist
Sack repairer
Sail machinist
Seamstress
Sewer, canvas goods
Sewer, clothing
Sewing machinist, clothing making
Sheetmaker, household linen
Shirt machinist
Smocker, machine or hand
Spokestitcher
Strapper, clothing
Stringer operator, bag sewing
Tabber, clothing
Table hand, blind making, not venetian
Table hand, clothing making
Tacker, clothing making
Taper, sewing
Tarpaulin machinist
Tent machinist
Textile machinist, clothing
Trimmer, clothing
Tufter, carpet making
Upholstery machinist
Welter, clothing making
Whipping machinist, clothing making

CLOTHING AND RELATED PRODUCT FACTORY WORKERS (SO DESCRIBED)

Clothing maker (so described)
Clothing worker (so described)
Factory worker, bag and sack making (so described)
Factory worker, canvas goods making (so described)
Factory worker, clothing making (so described)
Leather clothing worker (so described)

APPAREL AND RELATED PRODUCTS WORKERS, N.E.C.

Awning maker, canvas
Bag maker, calico, hessian
Bag maker, sugar
Bale maker, textile
Blind maker, canvas
Blocker, felt hat
Blocker, millinery
Canvas goods maker
Canvas worker
Cap maker, clothing
Clothing checker
Clothing clipper
Clothing examiner
Cottoner, clothing making
Examiner, clothing
Examiner, soft furnishings

Examiner, white work
Feather dresser, apparel
Felt hat assistant
Figure consultant, corsetry making
Filter maker, canvas
Finisher, clothes label making
Flag maker, textile
Flanger, felt hat
Floorwoman, clothing making
Folder, clothing making
Garment sorter
Grader, clothing
Hat blocker, felt
Hat brimmer, felt
Hat curler, felt
Hat maker (so described), not millinery
Hat pouncer, felt
Hat velourer
Hose maker, canvas
Hose repairer, canvas
Linen tracer, embroidery making
Marquee maker, canvas
Neatener, clothing
Parachute maker
Parasol maker
Sail maker
Shaper, felt hat making
Sorter, clothing making
Stack cover maker
Steamer, felt hat
Stiffener, felt hat
Tarpaulin maker
Tent maker
Umbrella maker
Umbrella repairer
Viewer, clothing
Water bag maker, canvas
Wool brusher, clothing

(Extract from Australian Bureau of Statistics publication (1976b))

APPENDIX C

QUESTIONNAIRE

DEPARTMENT OF FURTHER EDUCATION SURVEY OF CLOTHING INDUSTRY NEEDS

CONFIDENTIAL

This survey is being conducted to ascertain the training needs of personnel employed in the Clothing Industry.

To assist this investigation would you please answer the following questions. Where boxes are provided either place a tick (✓) in the appropriate box(es) or a number as requested.

1. INDICATE THE TYPES OF MERCHANDISE YOUR FIRM PRODUCES

Female outer garments	☐
Male outer garments	☐
Male shirts and pyjamas	☐
Children's Wear	☐
Female underclothing and nightwear	☐
Manchester	☐
Other (please specify)	☐

2. INDICATION OF FIRM'S SIZE

(1)	Small	(1-20 employees)	☐
(2)	Medium	21-100	☐
(3)	Large	101 +	☐

3. IF TRAINING WERE PROVIDED IN THE FOLLOWING ACTIVITIES, COULD YOU INDICATE THE LIKELY NUMBER THAT MAY REQUIRE COLLEGE TRAINING BY YOUR FIRM

	Firm requires college training (tick)	Number of employees requiring training in 1979/80
Methods study	☐	☐
Quality Control	☐	☐
Production Planning	☐	☐
Supervision	☐	☐
Designing	☐	☐
Pattern Making Stock	☐	☐
Pattern Making Individual	☐	☐
Draping	☐	☐
Fashion Co-ordinating	☐	☐
Grading	☐	☐
Training (Trainer)	☐	☐
Lay Planning	☐	☐
Marker Making	☐	☐
Miniature Lay Marking	☐	☐
Spreading	☐	☐
Cutting (bulk)	☐	☐
Cutting (single)	☐	☐

	Firm requires college training (tick)	Number of employees requiring training in 1979/80
Sorting	☐	☐
Binding	☐	☐
Fitting	☐	☐
Finishing	☐	☐
Pressing	☐	☐
Other	☐	☐

4. DO YOU REQUIRE COLLEGE TRAINING FOR MACHINISTS? (tick)

Operator	Single process	☐
Machinist	Multiple process	☐
Machinist	Whole garment	☐

5. IF MACHINIST TRAINING IS REQUIRED WHICH OF THE FOLLOWING TASK OR TASKS DO YOU SUGGEST SHOULD BE PROVIDED IN THE TRAINING PROGRAMME. (tick)

- Stitching round collars or flaps ☐
- Stitching pointed collars or flaps ☐
- Stitching scallops ☐
- Stitching zip ☐
- Patch Pockets ☐
- Bagged Pockets ☐
- Slit or Bound Pockets ☐
- Stitching darts ☐
- Attaching neck facing ☐
- All in one facing ☐
- Hemming (without hemmer foot) ☐
- Hemming (with hemmer foot) ☐
- Attaching binding (without a binder) ☐
- Attaching binding with binder ☐
- Gathering (on straight sewer) ☐
- Gathering (with differential) ☐
- Gathering foot ☐
- Shirring ☐
- Attaching collar with facing ☐
- Attaching collar without facing ☐
- Setting in sleeves ☐
- Attaching waistband with straight sewer ☐
- Attaching waistband with bander ☐
- Other ☐

6. DO YOU REQUIRE TRAINING FOR SEWING MACHINE MECHANICS? YES ☐

NO ☐

7. WHAT TYPE OF GARMENT(S) DOES YOUR FIRM PRODUCE? PLACE THE APPROPRIATE NUMERAL IN THE BOX PROVIDED. BUDGET - BETTER BUDGET - COUTURE
(1) (2) (3)

	Male	Female	Children
Slacks	☐	☐	☐
Jeans	☐	☐	☐
Shirts	☐	☐	☐
Blouses	☐	☐	☐
Jackets	☐	☐	☐
Suits	☐	☐	☐
Coats	☐	☐	☐
Lingerie	☐	☐	☐
Skirts	☐	☐	☐
Waistcoats	☐	☐	☐
Nightwear	☐	☐	☐
Knitted Tops	☐	☐	☐
Frocks	☐	☐	☐
Dressing Gowns	☐	☐	☐
Shorts	☐	☐	☐
Swim Wear	☐	☐	☐
Other	☐	☐	☐

8. IF TRAINING WERE PROVIDED IN THE FOLLOWING MACHINERY, COULD YOU INDICATE THE LIKELY NUMBER THAT MAY REQUIRE COLLEGE TRAINING BY YOUR FIRM.

	Firm requires college training (tick)	Estimated employees requiring training in 1979/80
Industrial Straight Sewing Machine	☐	☐
Safety Stitch 5 thread	☐	☐
Safety stitch 4 thread	☐	☐
Overlocker 2 thread	☐	☐
Overlocker 3 thread	☐	☐
Blind Hemmer	☐	☐
Buttonhole	☐	☐
Twin-needle	☐	☐
Button-sewer	☐	☐
Feed off the arm	☐	☐
Embroidery	☐	☐
Under bed thread trimmer	☐	☐
Bander	☐	☐
Bar-tak	☐	☐
Cutter (cylindrical)	☐	☐
Cutter (straight-knife)	☐	☐
Variator Pattern Grader	☐	☐
Electric Drill	☐	☐
Differential Straight Sewer	☐	☐
Other	☐	☐

Please indicate additional training equipment that ought to be available.

_____

Other: _____

9. DO YOU REQUIRE TRAINING IN THE FOLLOWING PATTERN MAKING PROCESSES. (tick)

	Male	Female	Children
Grain balance	☐	☐	☐
Dart control and transfer	☐	☐	☐
Ease allowance	☐	☐	☐
Sizing	☐	☐	☐
Australian Standard Size Coding Scheme	☐	☐	☐
Construction Patterns	☐	☐	☐
Final Patterns	☐	☐	☐
Seam Allowance	☐	☐	☐
Trueing and Blending	☐	☐	☐
Tucks	☐	☐	☐
Gathers	☐	☐	☐
Facings	☐	☐	☐
Button stand	☐	☐	☐
Measurements (taking of)	☐	☐	☐
Pleats	☐	☐	☐
Panel	☐	☐	☐
Panel (Gores) (Flares)	☐	☐	☐
Collars	☐	☐	☐
Sleeve designs (one piece)	☐	☐	☐
Sleeve designs (two piece)	☐	☐	☐
Yokes	☐	☐	☐
Pockets	☐	☐	☐
Blouses	☐	☐	☐
Shirts	☐	☐	☐
Princess line	☐	☐	☐
Raglan	☐	☐	☐

	Male	Female	Children
Magyar	☐	☐	☐
Tailored Collars	☐	☐	☐
Continuous Roll	☐	☐	☐
Other (please specify)	☐	☐	☐

_____

_____

_____

10. IF COLLEGE TRAINING IS REQUIRED BY YOUR FIRM PLEASE INDICATE YOUR PREFERENCE.

Evening only	☐
Mid afternoon e.g. 4 p.m. - 7 p.m.	☐
Day release e.g. 1 day per week	☐
Day release plus 1 evening	☐
Block release e.g. 1 week	☐
e.g. 2 weeks	☐

11. IS COLLEGE TRAINING IN FIBRE TECHNOLOGY REQUIRED IN YOUR FIRM? (e.g. characteristics, composition, testing etc.).

YES	1 ☐
NO	2

12. ARE THERE ANY OTHER COMMENTS YOU WOULD LIKE TO MAKE ABOUT COLLEGE TRAINING FOR THE CLOTHING INDUSTRY?

THANK YOU FOR YOUR CO-OPERATION AND ASSISTANCE

APPENDIX D

COVERING LETTER

DEPARTMENT OF FURTHER EDUCATION
EDUCATION CENTRE, 31 FLINDERS STREET, ADELAIDE, SOUTH AUSTRALIA
BOX 2352, G.P.O., ADELAIDE, S.A. 5001 PHONE 227 4204

2 AUGUST, 1978

Dear Sir,

The Department of Further Education is conscious of the need to involve industry when modifying or developing courses. Many industries have expressed the thought that closer liaison with educational institutions should occur on training matters. One way of achieving this joint involvement is by undertaking person to person surveys of specific industries to determine current and future needs.

At the moment a Lecturer in Clothing Production, Mrs. Kath Berry, is carrying out such a survey as part of a major review of the Clothing Production Certificate Course. Your firm is one of over seventy that have been invited to take part in this study.

I am therefore seeking your assistance in determining the requirements of the Clothing Industry in relation to training. Your comments will assist the teaching staff to ensure that the revised course is closely related to the needs of your industry.

At a convenient time, Mrs. Kath Berry would like to visit you to discuss these matters.

I appreciate that your time is limited and the survey questions have therefore been developed with this in mind.

Kath Berry (227 4222), presently working in Curriculum Development, will telephone you in the near future.

In anticipation, I would like to thank you for your co-operation and assistance in this very important study. It will no doubt prove to be of considerable benefit to all employers and teachers involved in the Clothing Industry.

Yours sincerely,

.....
(L.A. KLOEDEN)
DIRECTOR-GENERAL OF FURTHER EDUCATION

APPENDIX E

ACCURACY OF THE SURVEY DATA

The attributes or characteristics sampled in this survey include firm size, type of garment and need for various types of training. The following discussion is based on the assumption that the sampling is random. There are grounds for accepting the validity of this assumption in that those firms not participating can be classed as randomly 'selected' groups.

If one assumes a particular percentage range for all such attributes (e.g. 20% to 80%) and the response rate is known (e.g. 82.0%), then the 95% (say) confidence interval for any given attribute as it applies to the population of firms involved in clothing production operations (where population equals respondents plus non-respondents) can be calculated from the sample size and the attribute values obtained from the responses. It should be noted that it is common practice to use a 20%-80% attribute range and a 95% confidence interval. (Information concerning this particular statistical procedure can be found in the text book written by Snedecor and Cochran (1971, p. 516)).

In order to calculate the 95% interval of a population attribute or group of attributes, it is assumed that the population proportion of such attributes lies in the range 0.2 to 0.8 (i.e. 20% to 80%). With a response rate of 82.0% and using appropriate statistical formulae, one can be 95% confident that the population percentage of any attribute lies within ± 5% of the population's percentage obtained from the sample taken.

For instance, in measuring the attribute "type of garment", the sample yielded 35% of the firms manufacturing female outer garments. Therefore we can be 95% confident that the percentage of all firms making female outer garments lies in the range (35±5)%, i.e. between 30% and 40%.

APPENDIX F

LIST OF MANUFACTURERS VISITED BY THE PROJECT OFFICER

Bedford Industries
Consolidated Apparel
Creative Sewing
D. & F. Garments
Dixon Clothing
Donsan Creations
Florena
Fox Wear
Colette Foubert
Garnaz
Glenside Manufacturing Pty. Ltd.
Golden Breed
Goldex Embroidery
Gwynn Jones Pty. Ltd.
M. Hambour & Sons Pty. Ltd.
J. & D. Hampel Pty. Ltd.
Bettina Holt & Stylecraft Bridal centre
Habib & Correll
Ivy Leisure Wear
JAP
Bonnie Jarrett Dressmaking
K.J. Jarvis & Co. Pty. Ltd.
Jolyn Clothing
G. & A. Kilmier
Kornblumbs
Lavasas Industrial Wear Ltd.
Levi Strauss
Look Bazaar
Moda Tailoring
Myer S.A. Stores Ltd.
Normac Pty. Ltd.
Oxford Clothing Co. Pty. Ltd.
Panache Pty. Ltd.
Pelgrave Clothing Co. Pty. Ltd.
Shirley Preston
Rich's Uniforms
Robertson Justic
Riviera Development Corp. Pty. Ltd.
Seater Manufacturing Pty. Ltd.
Singer Australia Ltd.
Evan Staines
T. & W. Manufacturing Pty. Ltd.
Ronald S. Tanner
K.R. Travis & Co. Pty. Ltd.
Taylor Manufacturing
The Company of Shirts
Tony Tailoring
Tanglewood Fashions
Vogue Overseas Fashions Pty. Ltd.
Walter Fashions

APPENDIX G

CLOTHING INDUSTRY (MACHINIST) CERTIFICATE COURSE

AIM

To provide basic instruction to enable students to become competent machinists in the Clothing Industry.

The course consists of four modules. To obtain a certificate students must complete all modules. However, the course has been designed to meet the needs of individuals and industry; therefore students not requiring the certificate may complete that segment of the course which will meet their needs.

LENGTH

Four modules total of 420 hours.

Module 1	Control and Speed	(based on 60 hours)
Module 2	Multiple Processes	(based on 120 hours)
Module 3	Special Machinery	(based on 120 hours)
Module 4	Whole Garments	(based on 120 hours)

ENTRY REQUIREMENTS

No formal pre-requisite. Subject to counselling.

MODULE 1

AIM

To enable students to gain an understanding of safety, design, performance, operation, maintenance, of the straight industrial sewing machine; to obtain basic skills in machine control leading up to speed on limited processes; to recognise faulty stitch formation; to use principles of method study; and to gain an appreciation of the Clothing Industry.

TOPIC	EXPECTED STUDENT ACHIEVEMENT
Safety	To apply principles of safety when using straight industrial sewing machines.
Design, Performance, Operation	To understand the design, performance and operation of straight industrial sewing machines.
Maintenance	To be able to maintain the machine and keep it in good working order.
Stitch Formation	To recognise faulty stitch formation, and to correct to proper stitch formation.
Method Study	To understand the importance of method study and to use the principles in stitching practice.
Clothing Industry	To gain an understanding of the Clothing Industry and the important role of a machinist.
Threading	To thread a machine proficiently.
Seam Allowance	To understand importance of correct seams on components.
Stitching Practice	To control the machine at speed while maintaining required standards.
Needle and Thread	To select appropriate needle and thread combination.
Needle Changing	To change a needle to correct specification.
Stitching Processes	To attain speed and quality on limited processes.

MODULE 2

AIM

To enable students to expand their knowledge and skills by; stitching a variety of processes used in the Clothing Industry; furthering their knowledge in the use of the straight sewing machine; adjusting stitch length; recognizing differential feed; and using pressure foot attachments.

TOPIC	EXPECTED STUDENT ACHIEVEMENT
Stitching Processes	To stitch a variety of processes which include; collars, flaps, scallops, zips, pockets, darts, all-in-one facings, hemming, gathering, shirring, bindings, set in sleeves, insets, attaching gathered section to plain.
Pressure Foot	To attach bindings using a binder.
Attachments	To gather using a gathering foot. To stitch in zips using zipper foot. To perform hemming tasks using hemmer foot.
Sleeves	To set in sleeves competently and efficiently.
Waist Bands	To attach waist-bands using straight sewer.
Gathering	To gather using differential feed.

MODULE 3

AIM

To enable students to gain an understanding of safety, design, construction, performance, operation and maintenance of special machinery; to recognise stitch formation; to adjust stitch length; tension and pressure on at least five of the following machines, safety stitch (including overlocking), blind hemmer, buttonhole, twin-needle, button sewer, feed-off-the-arm, embroidery, bander, bar-tack.

TOPIC	EXPECTED STUDENT OUTCOME
Safety	To apply principles of safety to the chosen group of machines.
Design, Construction, Performance	To understand the design, construction, performance and operation of the chosen group of machines.
Maintenance	To be able to maintain the machines and keep them in good working order by being aware of cleaning, oiling and correcting minor machine problems and reporting major machine problems.
Use of Machine	To be able to use proficiently the chosen group of machines.

MODULE 4

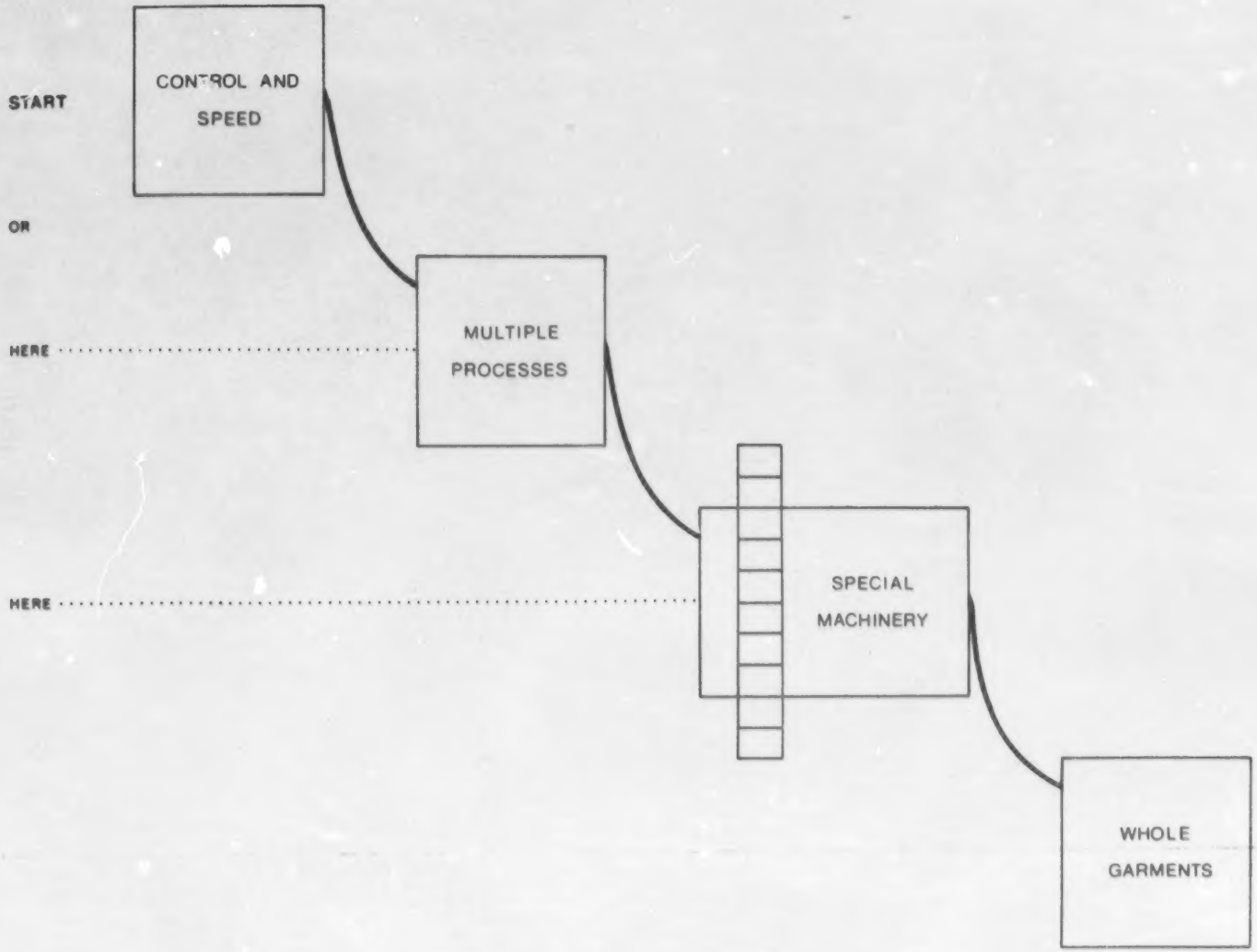
AIM

To enable students to use the knowledge and skills developed in the previous stages to become proficient in whole garment assembly.

Students may select from one of the following: Budget, Better Budget, Couture.

TOPIC	EXPECTED STUDENT OUTCOME
Design	Interpret design or sample.
Fibres	Recognize fibres.
Machinery	Select appropriate machines required to assemble the garment or garments.
Preparing to assemble	Lay-out work using principles of work study.
Task	Carry out task to the specifications given.
Pressing	Under-pressing where appropriate.
Complete Garments	Complete garments to the specifications.

FLOWCHART :

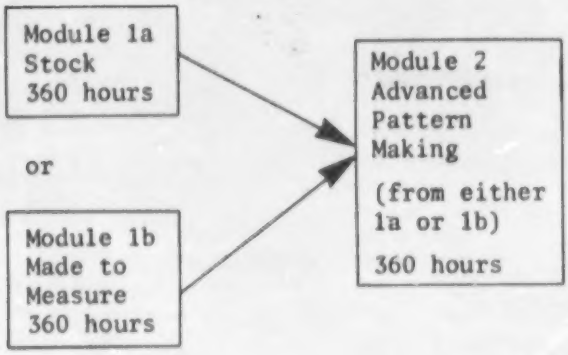

START
OR
CONTROL AND SPEED
HERE
MULTIPLE PROCESSES
HERE
SPECIAL MACHINERY
WHOLE GARMENTS
BUDGET
BETTER BUDGET
COUTURE

APPENDIX H

CLOTHING INDUSTRY (PATTERN MAKER) CERTIFICATE COURSE

Two major certificates each of two modules (as indicated).

1. PATTERN MAKER (WOMENS WEAR) CERTIFICATE 24 hrs/wk for 30 weeks



2. PATTERN MAKER (MENS WEAR) CERTIFICATE

Format as above.

LENGTH

Each course is of 720 hours duration, with each consisting of two 360 hour modules.

ENTRY REQUIREMENTS

No formal qualification - Subject to counselling.

Module 1a or 1b

Subject	
Basic Machine Skills	20 hours
Skirt	70 hours
Blouses	80 hours
One-piece dresses	70 hours
Two-piece dresses	70 hours
Slacks	50 hours
	360 hours

MODULE 1A

AIM

To enable students to develop skills in the basic principles of stock pattern making through the flat pattern system; (to obtain basic skills in the use of straight and basic special industrial machines); to make patterns for a variety of skirts, blouses, one piece dresses, two piece dresses, slacks.

TOPIC	EXPECTED STUDENT ACTION
Basic Machine Skills	To be aware of the function and use of a variety of basic sewing machines.

SUBJECTS	EXPECTED STUDENT ACHIEVEMENT
Skirts (Stock)	To be completed to set specifications. Basic Skirt toile Patterns A-line skirt block; slim skirt block; flared skirt block; fully flared skirt block. Twelve skirt designs incorporating; yokes, pleats, button stands, pockets, six gore, slim and flared; full circular skirts; 3/4 circular skirts; ½ circular skirts.
Blouses (Stock)	To complete the following to appropriate specifications. Blouse toile Patterns Bodice block; blouse block; sleeve block. Twelve blouse designs incorporating facings, button stands, collars, sleeves, yokes, gathers, pleats, darts, cuffs, front bands.
Two Piece Dress	To be completed to set specifications. Dress toile Patterns Bodice block; skirt block; sleeve block; skirt block; sleeve block. Twelve patterns to be completed to set specifications incorporating; scooped necklines, peter pan collars, sailor collars, tailored collars, roll collars, empire line, midriff.

SUBJECTS	EXPECTED STUDENT ACHIEVEMENT
One Piece Dress	To be completed to set specifications. Semi-fitting dress toile Patterns Semi fitting dress block; straight dress block. Twelve pattern designs incorporating; button stand,

shaped necklines, slim fitting princess line, flared princess line, sheath, empire line, lowered waistline, collars, sleeves, yokes, pleats.

Slacks

To be completed to set specifications.

Slacks toile

Patterns

Basic slack block; jean block.

Ten trouser designs incorporating classic designs, slim fitting, yokes, pockets, shaped waistbands.

MODULE 1B

AIM

To enable students to develop the skills required to make patterns to individual measurements, through the flat pattern system; to make a toile; to make block patterns; to learn principles of fitting; to recognize figure irregularities; to make a variety of patterns for skirts, blouses, one piece dresses, two piece dresses, and slacks; (to obtain basic skills in use of straight industrial machine).

LENGTH OF COURSE

Based on 360 hours
Basic Machine Skills

SUBJECT	EXPECTED STUDENT ACHIEVEMENT
Skirts (made to measure)	To be completed to set specifications. Patterns to individual measure; fitting irregular figures; making a toile. Patterns A-line skirt block, slim skirt block, flared skirt block, fully flared skirt block. Twelve skirt designs incorporating yokes, pleats, button stands, pockets, six gore slim skirts, six gore flared skirts, full circular skirts 3/4 circular skirts, ½ circular skirts.
Blouses (made to measure)	To be completed to set specifications. Pattern to individual measure; fitting irregular figures; making a toile. Patterns Bodice block, blouse block, sleeve block. Twelve blouse designs incorporating; facings, button stands, collars, sleeves, yokes, gathers, pleats, darts, cuffs, front bands.
Two Piece Dresses (made to measure)	To be completed to set specifications. Patterns to individual measure; fitting irregular figures; dress toile. Patterns Bodice block, skirt block, sleeve block. Twelve patterns incorporating the following; scooped neckline, peter pan collars, sailor collars, roll collars, tailored collars, empire line; midriff; raglan sleeves.

SUBJECT	EXPECTED STUDENT ACHIEVEMENT
One Piece Dresses (made to measure)	All of the following to be completed to the set specification. Patterns to individual measure, fitting irregular figures, dress toile. Patterns Semi fitting dress block; straight dress block. Twelve pattern designs incorporating; button stand; shaped neckline; slim fitting princess line; flared princess line; sheath; empire line; lowered waist line; collars; sleeves; yokes; pleats; magyar sleeve.
Slacks (made to measure)	To be completed to set specifications. Patterns to individual measure; fitting irregular figures; slacks toile. Patterns Basic slack block; jean block. Ten trouser designs incorporating classic designs, slim fitting, yokes, pockets, shaped waistbands.
Machine Operation	To understand basic performance and operation of industrial sewing machines.
Garment Assembly	To assess effectiveness of pattern design and construction in terms of assembly.

MODULE 2

AIM

To enable students to expand the knowledge and skills obtained in Pattern Making module 1a or 1b by studying a range of associated topics including relevant aspects of design which will lead to a greater understanding and in-depth knowledge required by a pattern maker in womens wear.

LENGTH

360 hours.

ENTRY REQUIREMENT

Successful completion of Pattern Making Module 1a or 1b.

SUBJECT

Art Elements of Design and Clothing (2A)	20 hours
Fashion Sketching (2B)	100 hours
Fashion Co-ordinator (2C)	10 hours
Sizing Australian Standard (2D)	10 hours
Advanced Pattern Making (2E)	100 hours
Grading (2F)	20 hours
Garment Technology (2G)	100 hours
Fabric Technology (2H)	20 hours

MODULE 2A - ART ELEMENTS OF DESIGN (CLOTHING)

AIM

To broaden a student's perception of fundamental design elements and to develop the ability to apply these specifically to clothing.

LENGTH

20 hours.

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Silhouette	To complete design exercises in all of the syllabus topics.
Shape	
Time	
Proportion	
Balance	
Harmony	
Repetition	
Contrast	
Texture	
Colour	
Asymmetrical and Symmetrical balance	

MODULE 2B - FASHION SKETCHING

AIM

To enable a student to develop the skills necessary to produce working sketches of clothing designs.

LENGTH

90 hours.

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Figure Construction (Stick and Block)	To complete design exercises in all of the syllabus topics.
Features; Face, Hands, Feet	
Basic Figure Action	
Silhouette, Shape, Line	
Vertical, Horizontal and Diagonal	
Gathers, Flares, Sketching, Trims	

MODULE 2C - FASHION CO-ORDINATION

AIM

To develop an appreciation and co-ordination of line, colour, texture and accessories in relation to women's clothing.

LENGTH

10 hours.

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Colour	To use colour combinations effectively.
Texture	To understand the importance of texture in the co-ordination of garments.
Accessories	To choose appropriate accessories to complement an outfit.
Fashion Trends for Occasions	To select appropriate garments for specific occasions.
Fabric	To select appropriate fabric for specific styles.
Co-ordinate garments	To develop an appreciation of co-ordinating interchangeable garments.

MODULE 2D - SIZE CODE SCHEME FOR WOMEN'S CLOTHING

AIM

To enable a student to develop an understanding of size coding systems in relation to women's clothing.

LENGTH

10 hours.

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Australian Standard	Appreciation of Australian Standard Size Coding Scheme for women's wear.
International Sizing System	Compare international size coding system.
Analysis of figure types	Recognition of figure types.
Size intervals and tolerance	Recognition of size intervals, tolerance, and psychological aspect associated with sizing.
Labelling	Understanding the importance of correct labelling standards.

MODULE 2E - ADVANCED PATTERN MAKING

AIM

To enable students to expand the knowledge and skills obtained in Pattern Making modules 1a or 1b by designing and constructing patterns with advanced styling.

LENGTH

100 hours.

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Simulated Yokes	Design and produce patterns for: a variety of styles incorporating simulated yokes or bodices, sleeves, skirts.
Cowls and Drapes	Design and develop patterns for styles incorporating cowls and drapes on skirts, bodices and sleeves.
Asymmetrical styles	Design and develop patterns for asymmetrical styles.
Magyar and Raglan Sleeves	Design and develop patterns incorporating advanced styling including magyar and raglan combinations.
Light Weight Suits	Design and develop patterns for semi tailored styles.
Culottes	Design and develop patterns for straight, semi-circular pleated and flared.

MODULE 2F PATTERN GRADING

AIM

To apply the principles of grading to a variety of pattern designs using appropriate methods and equipment.

LENGTH

20 hours

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Equipment	Use of appropriate equipment.
Grading intervals	Develop and use a size difference chart with appropriate grade intervals.
Grade range of sizes	Grade a variety of completed patterns over a range of sizes.

MODULE 2G - GARMENT TECHNOLOGY

AIM

To develop skill in cutting and assembling a variety of single cut garments using various fabrics.

LENGTH

100 hours

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Prepare fabric for cutting	Use principles associated with preparing fabric for single cut garments with symmetrical and asymmetrical designs including inspection for flaws, map one-way designs and straight grain.
Principles of cutting	Use principle of cutting single cut garments; correct use of shears; economy of lay-out; retention of correct seam allowance.
Methods of Marking	Mark stitching details from pattern to fabric using a variety of methods.
Assembly Plan	Prepare assembly plans in a logical sequential order.
Assembly and Finishing	Assemble a variety of garments using appropriate assembly techniques, trimmings and machinery.
Fitting	Fit garments for irregular and standard figure types.
Interfacing and Linings	Select appropriate interfacing and linings for a variety of outer fabrics.
Pressing	Press a variety of garments during assembly and on completion using appropriate equipment and techniques.
Special Fabrics	Use a variety of fabrics including knit, velvet, chiffon, satin.

MODULE 2H - FABRIC AND FIBRE TECHNOLOGY

AIM

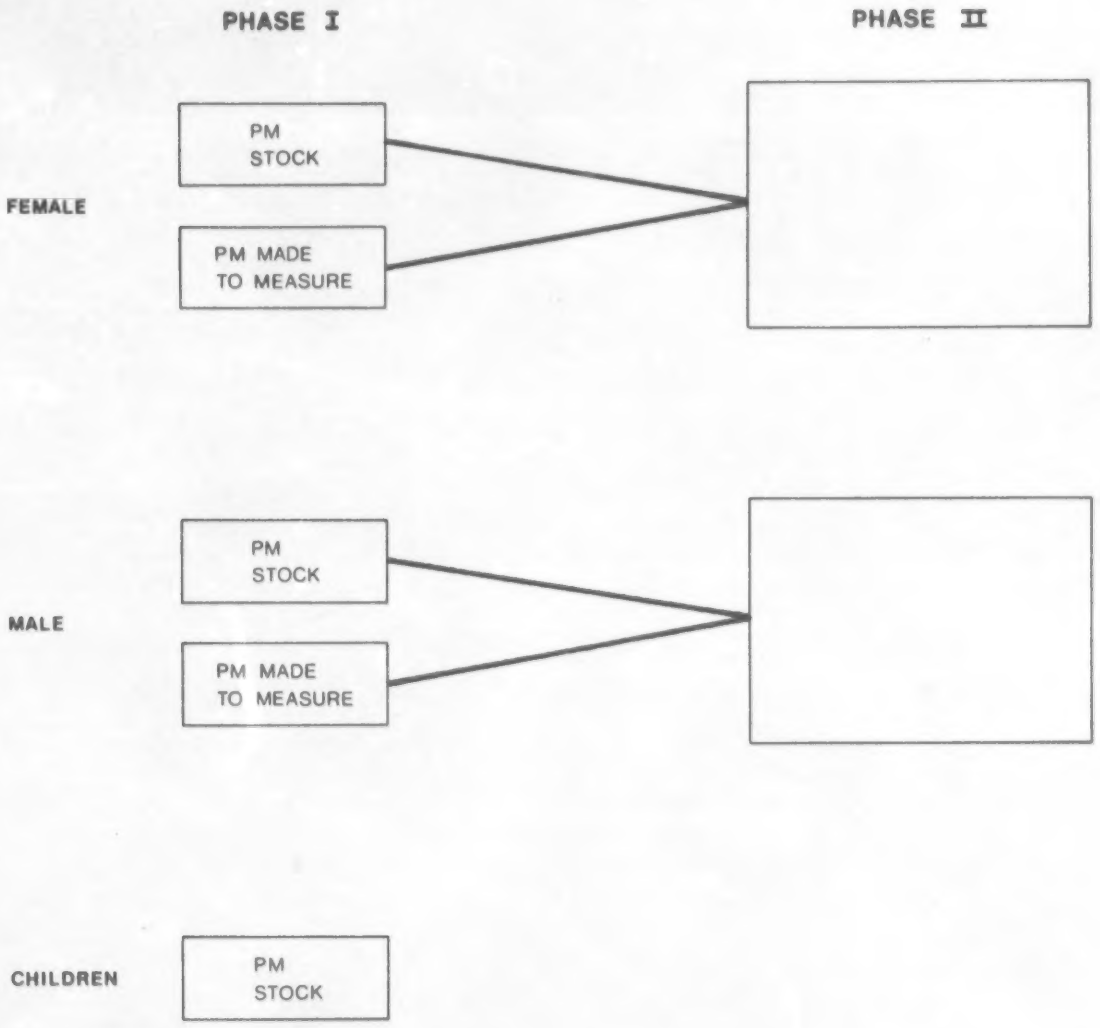
To enable the student to gain an understanding of textile fibres. To develop the ability to distinguish between natural, synthetic and man made fibres and their properties and characteristics.

LENGTH

30 hours

SYLLABUS TOPIC	EXPECTED STUDENT ACHIEVEMENT
Recognition of Fibres	Identify various fibres by using appropriate testing equipment and methods.
Fibre and Fabric Characteristic	Describe characteristics of a variety of fibres and fabrics.
Fibre to Yarn	To recognise various types of yarn and methods of manufacture.
Structure of Cloth	Recognise the variety of weaves, knits and felted fabrics.
Fibre Blends and Mixtures	Differentiate between blends and mixtures.
Testing Fabric	Test fabric for tensile strength, shrinkage, elasticity, colour fastness, heat and moisture, abrasion, durability, flammability, atmospheric condition.
Fabric Flaws	Identify flaws, bar-marks.
Fabric Finishes	Describe variety of finishes applied to fabric, and effect of these finishes on behaviour of fabric including tentering embossing, and chemical finishes.
Care of Garment	Suggest appropriate method of cleaning and caring for garments in a variety of fabrics.
Labelling Laws	Select appropriate labels for fibre content and laundering.
Garment Finishes	Recognise seam construction and finishes, trimmings.
Garment Faults	Identify seam puckering, thread and cloth relationship, cutting faults (shading, incorrect grain placement).

CERTIFICATE COURSE IN PATTERN MAKING - FLOWCHART



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